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Vol. V

No. 9

9

RECESSIONAL

RUDYARD KIPLING

GOD of our fathers, known of old;
Lord of our far-flung battle line,
Beneath whose awful hand we hold
Dominion over palm and pine;
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

The tumult and the shouting dies;
The captains and the kings depart;
Still stands Thine ancient sacrifice,
An humble and a contrite heart.
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

Far-called our navies melt away;
On dune and headland sinks the fire;
Lo, all our pomp of yesterday
Is one with Nineveh and Tyre!
Judge of our Nations, spare us yet,
Lest we forget—lest we forget!

If, drunk with sight of power, we loose
Wild tongues that have not Thee in awe,
Such boasting as the Gentiles use,
Or lesser breeds without the law;
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget.

For heathen heart that puts her trust
In reeking tube and iron shard,
All valiant dust that builds on dust,
And guarding, calls not thee to guard;
For frantic boast and foolish word,
Thy mercy on Thy people, Lord!

H.R.H. THE DUKE OF CONNAUGHT

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THE EXCEPTIONAL CHILD

By WILLIAM D. TAIT
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THERE seems to be a growing conviction that education should extend its work and aim more towards general social efficiency in order that the future product of school and college may be better equipped to do more in a concrete way for the welfare of his race; a conviction that education must do more than equip a few individuals with the means of self-enjoyment and allow the rest of humanity to do as it pleases. Education must attempt to develop the full capacities of each, not the talents of the few; it must lay aside the dogmas and ideals, if they can now be called such, which have arisen under different conditions of life, and hence no matter how useful they might have been, are now valueless.

No community or state is justified in aiding or maintaining any institution which does not contribute something towards the welfare and happiness of the race. Confusing the good with pleasure some may spurn such an ideal as utilitarian, which it is, as if that were the deepest curse which could be uttered—the final word on the subject which removed the matter from all further discussion. This narrow understanding, or better, misunderstanding of the word utilitarian, is indicative of a small and narrow outlook on life usually inspired by some sort of dogmatic absolutism. Such would limit the word to digging ditches, eating a good meal, building railways and such like. People of this mind confuse pure science with applied science; they exhalt the beauties of ancient research, which is right, but refuse to extend their patronage to modern research; they hark back to the ancients in the latter, but forget the spirit of originality which pervaded Greece; they have lost the ideals of previous culture and refuse to see the same spirit active in the science of to-day.

We would use the word utilitarian, as Mill did, in the sense that anything is useful which enables us to live better and to have more true living. It is thus identical with the good and, therefore, true and beautiful. We believe that the advance of civilization and culture depends on the extent to which we know about our environment, that this knowing depends on science, and science on the cultivation of originality in education by selection, which selection in turn must be made on purely scientific grounds, not by that effete and pernicious means called an examination. In other words, to be truly efficient, we should have a measure of man in order that each may do his best, and that those who cannot or will not do anything, will be so placed that they cannot interfere with those who work.

This is the attitude taken by Ruskin when he says: "By a large body of the people of England and of Europe a man is called educated if he can write Latin verses and construe a Greek chorus. By some few more enlightened persons it is confessed that the construction of hexameters is not in itself an important end of human existence; but they say, that the general discipline which a course of classical reading gives to the intellectual powers, is the final object of our scholastic institutions.

But it seems to me that there is no small error even in this last and more philosophical theory. I believe, that what it is most honorable to know, it is also most profitable to learn; and that the science which it is the highest power to possess, it is also the best exercise to acquire.

And if this be so, the question as to what should be the material of education, becomes singularly simplified. It might be a matter of dispute what processes have the greatest effect in developing the intellect; but it can hardly be disputed what facts it is most advisable that a man entering into life should accurately know.

I believe, in brief, that he ought to know three things:

1. Where he is.
2. Where he is going.
3. What he had best do under those circumstances."

All of our social problems are ultimately and fundamentally child problems. The solution of them lies with education. It is felt by many that the various curricula of school and college are not sufficiently flexible to allow education to fulfill the aim set it. Too long we have been trying to adapt the individual to the curricula instead of the curricula to the individual. The pupil should not be supposed to exist for the sake of curricula in order that all may be stamped with the same mark, but the curricula should be for the pupil, to draw out his best qualities, to give him permanent and lasting interests, to bring out his capacities to their fullest usefulness and not to educate him in a set mould. It should be ingrained in us by long experience that no one course of study is the best possible for all those who are fated to come under it. The framing of inflexible courses according to some preconceived notion, or because they have fitted some group, should soon be a thing of the past. This implies that we have some measure of the individual other than the methods at present in use. It may be well to consider what the psychologist has to offer by way of mental measurement so that education may be more extensive and flexible and at the same time more thorough and constructive.

It is a matter of common sense that children, and adults too, can be classified in two groups—normal and abnormal. The abnormal can be divided into two other groups—the subnormal and supernormal. It will be seen that abnormal does not mean below the normal, but simply not normal or away from the normal. It includes those above the normal as well as those below the normal. Commencing with the normal we will discuss each of these classes, normal, subnormal and supernormal in the order named, pointing out as far as is possible, their general characteristics, how they may be educationally separated, and why this should be done.

What constitutes a normal individual is hard to define. It is usual to enumerate a number of qualities which are somehow or other deemed essential to any well balanced person. If these characteristics are carefully considered, it will be found that they are of a kind which enable the individual to meet his environment in a capable way. Normality then seems to be indicative of a certain amount of adjustment. This, of course, is extremely relative. A child or adult may pass for normal in the quiet of country life, while he would be classed as subnormal in the more complex situations of the city. It is also true that human environment is constantly becoming more complex, that inventions and improvements instead of making life easier are really making life more difficult by raising the standard of normality. This is the evolution of the human mind, and we shall see that it comes about by the efforts of the supernormal individual—the one who makes the real additions to life, and who on that account should receive our highest and best attention.

There are two prevalent misconceptions in regard to normality which must be corrected before we proceed further. It is sometimes held that the normal is decided by the majority, or, to put it otherwise, the normal individual is the one who possesses the same qualities as the majority of persons possess. Now, according to our definition, as above, the real test of normality is the ability or fitness to meet the conditions of life and cope with them successfully. If the majority of people in the world were handicapped or crippled by some disease we could not take them as the standard, but rather the minority who were not thus afflicted. Efficiency then and

1. The question of insanity is not discussed in this paper.

not numbers must be the deciding feature between normal and otherwise.

The next and most prevalent misconception is in regard to what constitutes the difference between normal, subnormal and supernormal. Many are of the opinion that these classes differ from one another in kind and quality of mental processes, that the mental life of the insane is feeble-minded, for example, is made up of different constituents from that of the sane. It is easy to see that such is not the case, but that the life of sane and insane to take extreme cases, is made up of the same elements and that the difference is one of balance or proportion rather than one of kind or quality. We find that the insane has perceptions, associations, attention, emotion, volition, etc. What then is the difference? Evidently one of proportion. In the normal person these various elements are so balanced that the individual can meet his environment in a way suitable to the organism. When this balance or proportion between the mental processes is lacking to any extent, then the organism cannot successfully meet the environment, and the individual is judged insane, defective, feeble-minded, as the case may be. In cases where the balance is even better than in the normal, where, of course, it is not perfect, we have the supernormal. The effect of disproportion among mental processes, is to detract from the proper reaeaction to environment and as this decreases and proportion increases, we approach the perfectly adjusted individual.

The range of what may be called normal is wide. The normal can be regarded as the half-way house between two extremes, lack of balance on the one side and more perfect balance on the other. This class of children and students has been the target of all educational practice. It may be well to inquire whether or not the other classes of children do not require some effort spent on their behalf in order that education may become education, and that society, civilization and cultlure may be moré than words on paper and in the mouths of diletants.

Even if the range of the normal be left wider than it should be, and it may be more than a mean, there is ample evidence that there are many children below such a standard and a considerable number above it. Before discussing the need of dealing with these, we will first consider the classes which come under the various heads.

The subnormal children can be grouped as follows:

Defective and Retarded.

(a) Stupid children.
  1. Weak body.
  2. Normal body.

Deficient.

(b) Feeble-minded children.
  1. Morons.
  2. Imbeciles.
  3. Idiots.

From the above it is seen that children below the average can be divided into two groups—stupid and feeble-minded. The stupid child is below on account of a weak body or the improper functioning of an apparently normal body.

In class A1 the mental weakness is conditioned by a weak body, including the central nervous system. This may be due to various causes—poor food, slum conditions, defective vision or hearing, enlarged tonsils, adenoids, bad teeth, head too large or too small, insufficient clothing, unsanitary home or school conditions. On the other hand, as in class A2, when the child possesses an apparently healthy body and shows mental retardation, then the cause must be due to deficient functioning of the brain processes which underlie mental life. Such conditions are frequently caused by emotional disturbances of childhood, dating often from about the fourth year, when the sexual life really begins. They may also be caused by disturbances during the parental period. Something can now be done with some of these children by means of psychoanalysis. The children in class A are not feebleminded, but retarded or defective, and will not be further discussed.

Under B we distinguish three different types in a descending scale of intelligence. In lack of a better name the whole class is called feeble-minded. The term moron is given to the first group, which is not usually, in its high form, regarded as feeble-minded by the public, or even by some psychiatrists, especially if the latter be those of the old school.

Evidences of the moron type are more apparent during late childhood or the early adult age. This is especially true of the

higher types in this class—those who are considered the borderland cases and who after all are the most dangerous to society. They are the most dangerous because they pass for normal and remain unnoticed by the layman and the ordinary medical practitioner. Storring calls this high grade moron class by the phrase "intelligent feeble-mindedness." The condition is evident in nearly all mental functions, but particularly in the inability to come to decisions and form judgments on rational grounds. Such a type, in its higher forms, often succeeds in getting through school. The schools at present are incapable of dealing with them. Even if thus far successful, they ultimately fail in the practical affairs of life. This is due to their inability to come to any definite decision and act in accordance therewith. The lack of judgment shows a weak power of attention and inhibition.

Storring describes the type more in detail somewhat in the following terms: Abnormal inability to select the general from the complex, to distinguish essentials from inessentials, to evaluate a complex state of affairs; small power to distinguish the probable from the improbable, no estimation of real conditions, small consciousness of the real validity of their assertions. The stream of their associations seems to lack any guiding principle or main idea, and hence their thought lacks systematic coherence and logical sequence.

Individuals in this class often possess good memory, close observation of details, clear apprehension of narrow-thought processes and sometimes rich imagination. The higher grades may give the impression of well informed cultured persons and their real weakness passes unnoticed until some practical situation brings out their inability to judge. We are compelled to acknowledge ignorance of the physiological processes which correspond to the mental processes of attention, inhibition and judgment. Theoretically it may be said that there is an arrest of development in certain brain centres, probably along the pathways of motor discharge.

Feeble-minded is not usually applied to the type just described, but to the imbecile and idiot. As will be seen, imbecility and idiocy are much more than feeble-minded. On account of their rather marked characteristics there is not much danger of their escaping notice even by the untrained in such matters.

The difference between the imbecile and the idiot are quite marked. The imbecile is lively and unsteady in his actions. He seems to overflow with what might be called initiative were it not so abundant and ill-directed. He is flighty and continually roving from one thing to another. Easily influenced by external impressions, of which he takes the most fleeting and superficial notice, his attention, volition, feelings and emotions are most inconstant and unsteady. The general disposition is inclined to be rather even tempered, but frequently of a rather childish quality in its serenity. The memory is very weak, and judgment extremely limited—the comparison of simple sense of impressions being too difficult for this type.

The idiot, on the other hand, shows different qualities. Idiocy includes all those cases which show the deepest form of mental weakness. The worst form of idiocy shows little differentiation from the mental life of the animals—very little of what might be called intelligence. Their life is almost wholly vegetative for all mental processes, such as perception, attention, etc., are at their minimum. They are incapable of the simplest actions and learn to walk and stand late in life, sometimes not at all—going on all fours. In some of the higher stages of idiocy it is sometimes possible to direct the attention passively to a very striking impression. In all idiots the body shows extensive retardation, sometimes inherited and sometimes caused by diseases of the brain.

In regard to the subnormal child a fair amount of excellent investigation has been done in a few years, but little has been accomplished in the way of understanding the supernormal child. Most educators think that it is unnecessary, as the clever one will take care of himself no matter what are the conditions in which he is placed. On account of a lack of material our discussion of him will be rather superficial, for in this, as in all other cases, we must wait for the facts as revealed by experiment and not allow ourselves to be lead away by philosophical theories prior to investigation.

At present psychologists divide the su-

pernormal into two classes—a more or less common-sense division: 1. Those specifically endowed; 2, those universally endowed. In the first class some one mental characteristic is specially developed, while the other aspects of mental life may be no more than normal. This gives the individual so equipped a special talent or aptitude in some one direction. To this class belong the musical, mathematical, or other prodigy. In all these instances we find an overdevelopment in some one direction and a merely normal development in other functions.

In the second class we include all those who show an overdevelopment in all mental functions, so that they are capable of doing exceptional work in many different occupations. The one-sided genius often becomes ill-balanced on account of loose educative methods, i.e., a certain deterioration sets in by atrophy of certain morose processes. It is most important that they receive proper consideration. It is to this class that the great intellects of the world belong—those who are great in many realms of knowledge, not by mere knowing, however, but great by way of actual contribution.

Having now sketchily considered the classes into which humanity may be divided outside of the insane, and having outlined some of their characteristics, we will now endeavor to show the means by which we can distinguish these various grades of intelligence in a more scientific way. In other words, we will see how the psychologist attempts to measure intelligence.

Mental examination is at present made by what is known to psychologists as the Binet Scale of intelligence. It was first constructed and used by the illustrious French psychologist, Alfred Binet, in 1905, and later modified by him in 1908. It has been adapted to English speaking countries chiefly by Goddard, of Vineland, and Huey, of Johns Hopkins. Already thousands of children have been tested by this method, and it has been found remarkably accurate when used by experts.

To fully understand the methods of measuring intelligence, it is well to remember that the age of a child or adult can be reckoned in four different ways—age can be estimated from the chronological, physiological, pedagogical or physical point of view. Chronologically there can be neither retardation nor genius. A child born ten years ago is now ten years old—no more and no less. But physiologically, pedagogically and psychically the development may spread over quite a number of years, so that there may be no strict correlation with the chronological age. For instance, a child may be ten years old in point of time, but measured by bodily growth may show a development of only seven years by psychical testing a development of six and pedagogically an age of five. Very frequently, however, there is a considerable correlation between the physiological, pedagogical and psychical ages. It is in this latter means of testing that we are interested, and therefore a few examples of the Binet Scale are given.

Mentality of One and Two Years.

1. Eye follows light.
2. Block placed in hands is grasped and handled.
3. Suspended cylinder is grasped when seen.
4. Candy is chosen instead of a block.
5. Paper is removed from candy before eating, the child having seen the wrapping.

Mentality of Three Years.

1. Touches nose, eyes, mouth and pictures of these as directed.
2. Repeats easy sentences of six syllables with no error.
3. Repeats two numerals.
4. Enumerates familiar objects in a picture.
5. Gives family name.

Mentality of Seven Years.

1. Counts thirteen pennies.
2. Describes simple pictures.
3. Notes omission of eyes, nose, mouth or arms from as many portraits—three of the four.
4. Draws diamond shape, from copy, so that it can be recognized.
5. Names red, green, blue, yellow.

Mentality of Ten Years.

1. Names a penny, nickel, dime, quarter, half, dollar, two, five and ten dollar bills, in forty seconds.
2. Copies design after ten seconds' exposure.
3. Repeats six numerals.
4. Tells what one should do in various

emergencies and answers questions difficult of apprehension. Five out of eight.

5. Uses three given words in two sentences.

Mentality of Fifteen Years.

1. Ability to interpret certain pictures.

2. Imagines clock-hands interchanged for hour 6.20 and for hour 2.56.

3. Writes caught a spy in symbols after learning the code. One error is permitted.

4 Writes correctly the opposite of seventeen out of twenty given words.

Mentality of an Adult.

1. Imagines and draws result of cutting triangle from side of twice folded paper.

2. Imagines and draws new form produced by joining transposed pieces of diagonally divided rectangular card.

3. Distinguishes between abstract terms of similar sound or meaning.

4. Gives three differences between the president of a republic and a king.

5. Gives the central thought of a selection read to him.

Having outlined the chief characteristics of the various degrees of intelligence and the means by which they can be measured, we will now take up the reasons why this should be done. The subnormal child will be the first to receive our attention.

The question may be asked, although it should not be, if it is necessary to ascertain the number of feeble-minded in our population, and if that is done, is segregation and special treatment necessary. A few facts may help us to arrive at a decision better than a long argument, which might after all leave some of us unconvinced.

Last year the administration of justice cost Canada $32,200,000, or $4.57 per inhabitant. Criminologists assure us that the criminal is feeble-minded. There is no doubt that the ranks of the feeble-minded, particularly those on the borderline, are the main source of crime. A proper mental examination would aid us in selecting these persons either for life in an institution or else for treatment. Brain-storms, temporary insanity are only indications of what is there all the time awaiting an opportunity to make itself known.

The question of prostitution has always been a difficult one in society, and the methods used at present do not hold out much hope of success. It is held by authorities on the matter that prostitution in the female corresponds to crime in the male, and their source is the same, namely, the feeble-minded individuals. The white slave traffic would soon die out for want of material to sell if the victims were not in most cases very susceptible to enticements. We are quite willing to admit that there are a few exceptions, but only a few. Then again, there are a great number of prostitutes who were never the objects of the traffic in its business aspects, but who, shall we say wilfully, took up the life of prostitution. This class is much more numerous than those who are taken and held against their will, and without them the business would soon end. The crime of promoting the traffic is also an indication of low mentality. The whole question is a matter of intelligence, and not mere morality.

Perhaps the most important fact connected with this whole question of feeble-mindedness is that of heredity. The following facts in this particular connection stand out clearly as the result of scientific investigation. The feeble-minded reproduce much more rapidly than normal persons, and most clearly to be noted is the fact that the offspring of feeble-minded parents is always feeble-minded. If only one of the parents is feeble-minded, then some or perhaps all of the children are subnormal. Further, the descendants of normal children whose ancestry shows a taint are likely to show symptoms that their mental condition is low. This is a region where the law of heredity is inexorable.

The population of Canada is roughly 7,000,000. Taking the low percentage of 2, we then have in Canada the appalling number of 140,000 subnormal—that is, if we are no exception to other parts of the world where investigations have been carried on. It is no wonder then that we have criminals and the makings of criminals in our midst.

The above must be taken in connection with another fact. Last year the immigration to Canada amounted to, roughly, 350,000. Two per cent of this will give us an annual income of 7,000 feeble-minded individuals to fill our jails and increase our expenses.

The reasons for deportation show that

a large number are sent away on account of mental deterioration of some kind. How did they get in?

Add to this yet another fact. Some recent reports seem to show that nearly 50 per cent. of the inmates of our asylums are imported. A glance at court records will show the same thing in regard to crime. Yet very little is done to inaugurate a sane immigration policy, and our sole ambition seems to be to get people into Canada no matter what they are. It is quite possible that many of our medical officers are not capable of making a correct mental examination. Even if they were there is not time to do it on this side. A glance at the classification of mental diseases according to the immigration report shows the condition of the whole matter.

In Manchester, England, about 33 per cent. of the children in the public schools were found to be retarded from one cause or other. The same percentage was found in the case of 55 towns in Western United States. Coming nearer home we find that Toronto has found it necessary to institute special schools for children who cannot benefit by attendance in the public school grades. This latter examination was in the first instance made by the teachers and the children selected by them then medically examined. It is very probable that the number is thus too small, because some of the high types will escape the notice of the ordinary school teacher, and the great number of teachers are very ordinary in this respect—not to mention the medical men.

In the schools of Amherst, Nova Scotia, 1217 children were mentally examined and 889 children were found physically defective. There were 350 cases of defective vision. No mental examination was made.

Yet more. Authorities like Goddard assure us that feeble-mindedness is the cause of alcoholism and not alcoholism the cause of feeble-mindedness. This throws an interesting light on the abstinence question, and an aspect which deserves very serious consideration. If Goddard's statement is true, then the solution of the matter lies not in the legislation desired, but in the proper control of those who are liable to become alcoholics.

Supposing now that we segregate such children and adults as fall in the feeble-minded class, what are we to do with them? Two possibilities stand open to us —sterilization and confinement to institutions. In view of our ignorance of the causes and treatment of feeble-mindedness the time is not yet ripe for sterilization. We can never take the extreme step until we have given up the hope of cure, which hope will always exist. It must always remain a possibility that when we ascertain the specific causes of feeble-mindedness something may be done by proper treatment. Then, too, the sterilization process as ordinarily meant would only affect the males. There is much more danger from the "female of the species," as it is not unusual for a normal man to cohabit with a female below the normal, with the likelihood of mentally deficient offspring.

Our next remedy is institutionalism. There can be no hesitation in saying that this is our only recourse at present. The chief objection to such a procedure is the expense, but closely examined it will be seen that this is superficial and that the care of the feeble-minded in proper conditions is a real saving. Our jails and penitentiaries would not be so full for the main or perhaps chief source of crime would be eliminated. Less police protection would be required. The cost of justice would be less. There would be less property and life destroyed. The result would be that institutions of such a kind would be much less expensive than the present protection against crime and the inefficient management of education. In addition to this, many of these patients can be taught trades and occupations, the product of which will help to pay for their keep. If the labor unions can be inoculated with a little mite of pocket common sense, there should be no hindrance to the carrying out of such an idea—if they can be made to see that much which now goes to the preventing, detecting and punishing of crime will be saved and taxes decreased by that amount.

This is the dark side. If it were the only one then the outlook would be pessimistic indeed, and a philosophy of despair the only refuge. There is a bright side, but the actuality of it depends on the manner in which we educate the supernormal child. The segregation of the subnormal is merely protective and negative, while

the selection of the supernormal is constructive and positive. In order that the world may profit to the fullest extent by their works, the individuals of this class must be nurtured and disciplined. If this is not done, then society and civilization are the losers, because of a false conception of human freedom. It is here for us to realize that the aims of education must be more than merely individual—an idea that is frequently lost sight of. Under the present system of instruction, both in school and college, the supernormal individual is handicapped and prevented from finding his full strength by the presence in the same class of those who are beneath him in mentality. He finds the work absurdly easy and merely entertaining—sometimes not even that. The result is that there is no call for any effort or exertion on his part, hence he receives no discipline and forms bad habits of attention and intuition from which in after life he cannot recover. This lack of care is specially destructive to the one-sided genius. There is no doubt but that the early death and failure of those who promised much judged by the little they did, could have been prevented by proper education. A few individuals survive this treatment at the hands of society, but it is to be feared that we have lost many of what otherwise might have been great men, because the positive habits of effort and inhibition were not brought into activity.

The statement that conspicuous talent will succeed is not true of all environment. We know only of the great who have become great because of chance favorable environment. If we control the environment in education it does not follow that the result will be a hot-house plant. It does not mean that the product will be a weak and sickly individual, or that he will be pampered and life made a path of velvet for him. It does mean that he will be disciplined and developed in such a way that he will become a worthy product of conscious selection. It is the lack of the proper attention that produces the weak individual. The consequence is that we lose much of the best talent potentially given to us. Some of us have the courage to believe that the world can make use of a few more giant intellects than those given to us by mere chance.

If our schools and colleges are to be effective in promoting the good of the world and in producing a constructive culture and civilization, then all institutions of learning, both school and college, should take full cognizance of at least three grades of intelligence. The bright children and mature student should not be held back by those below them—the normal—and the normal should not be retarded by those below them—the subnormal. For the same reason the standard of university entrance should not be made so low or of such a character as to admit those who cannot but fail to profit by college instruction. Very few, if any universities, make any test of intelligence. The usual entrance examinations are merely tests of what information the candidate possesses, and therefore no real examination as to his intellectual ability.

Such a psychological division will aid us in solving another problem. It is always a question how far our ordinary schools should train for the business and trades of everyday life. So far we have not reached any satisfactory answer, and, as a consequence, our schools are a hybrid between vocational training and higher education leading to constructive study. The older countries solve this difficulty in two ways—by the caste system and by the examination system. Both are to be condemned for very evident reasons. It is very probable that if the supernormal were selected by mental tests, and the normal and borderland cases likewise that we could bring about a more satisfactory condition than at present. It would then come about that those who are mentally qualified to enter into the life of scholarship and research—including the higher business activities—would be selected and given special training in order to fit them more efficiently for their work. It would mean, too, that much of the effort wasted in attempting to make scholars and geniuses out of ordinary mud would be saved, and the same energy directed towards making the ordinary mortal more fit for ordinary work. It would mean that our colleges and graduate schools would have a smaller enrollment, but they would give greater results at a much less expense.

Such a division of our schools would place each child in the kind of school and class for which he would be best fitted, and he would thus be able to do all that his endowment provided for. This would fulfill the conditions spoken of earlier. *Education should be so arranged as to give each child the chance to develop his full capacity for the benefit to the race. It is more than that—it is the duty of the race, and, in particular, each community to see that he not only gets the chance, but that he actually makes use of the chance.*

In connection with this series of problems two related questions claim our attention. One is the attitude of society, towards the criminal, and the other is the Juvenile Court.

In the main, three theories are held in regard to the criminal. First. The criminal is born evil. Secondly. The criminal is a diseased individual—crime is the result of disease. Thirdly. The criminal is the product of society.

That the criminal is born evil savors of that theory which states that we are all born of the devil and require regeneration. It is a most pernicious and pessimistic doctrine and leads to nothing but the blindest kind of fatalism, not only in regard to the normal person, but particularly in the treatment of crime. It is enough to say that we cannot decide what is evil until the individual acts in such a way as to produce harm. No one can be called evil, let alone born evil, unless he has committed some act detrimental to society. What is evil can only be decided by the act, not in reference to the person who acts. Then, too, what is evil at one stage of culture may not be so considered at another, so the matter is very relative. Suppose it to be done by the same person at different periods of the world's history, then you have the same individual doing the same act, and thus both good and evil. The act then is the evil, not the person. It is silly to speak of any one being born evil, for what is evil can only be decided when he acts, and to say that he is evil before he acts is not a rational statement.

The theory that the criminal is a diseased being is even more subtle and held by many who should know better. In disease there are elements present which are not found in the normal. We do not find such in the criminal. His body may be perfectly healthy and his mind show the same mental elements as does the normal person.

We wish to support the statement that the criminal is born mentally weak and not evil or diseased and is the product of society. It is not meant by this that he is made like a piece of machinery, from a certain design and wilfully on the part of society, but that society provides the opportunities for certain persons becoming criminals. The criminal is born with certain mental incapacities which cause him to get into trouble when exposed to certain conditions. It is mental weakness rather than disease, mental disproportion rather than the work of the devil which unfits him for adjusting himself in the proper way to his environment. Society in its various aspects offers opportunity for these weaknesses to exhibit themselves and thus makes the criminal because it leaves him free to hurt himself and ohers. It is the duty of society to see that such weak beings are not given the opportunity to get into the wrong environment. If society is thus to blame, then it is difficult to see how it can be justified in punishing the criminal for what he is not responsible—being born weak and the environment in which he is placed.

This brings us to the Juvenile Court. It may seem harsh to say that the Juvenile Court as at present constituted in Canada is a step in the wrong direction. It is better to say what is true than be polite at the expense of truth. It is cheerfully admitted that it is better than the old methods, but it is an indication that those who have made this step have failed to understand the real problem connected with crime. They think they have done their duty by considering the child in a separate court and as sort of a small adult. It cannot be emphasized too strongly that the child is different in many respects from the adult, and is not simply a smaller edition. Applying our principles of mental examination we should at once say that the Juvenile Court should not be a court, but a clinic. The children who appear at that court do not need a judge but a physician, not punishment but treatment. They are mentally deficient and those in charge of such courts being usually ignorant of medi-

cine, biology and psychology are altogether incapable of dealing with such children in the proper way. A rational treatment of the child is the only means of lessening the ever-increasing amount of crime, and this can never come about under the present court methods. Society is responsible for these conditions and society alone and the cessation or diminution of crime can only be brought about by means of selection in early youth. In other words, crime cannot be stopped by blocking methods at the outlet, but only by preventive measures at its source. The great source is the feeble-minded. The method of dealing with it is not by court logic or rhetoric, but by application of the laws of biology and psychology.

Having seen ample reason why society through education should be selective, and having discussed the methods by which this can be done, it is now in place to consider the machinery by which this is to be accomplished. Before any system of reform can be carried out, there must be scientifically trained men to do the actual work day by day. The medical man of today is unfit to do this work because as has been said by someone, he is lucky, if during his five years medical training he has spent five minutes on psychology. The psychologist too is unfit from the medical point of view and likewise the biologist. The solution, then, is to give our medical students a thorough training both in general and experimental psychology and clinical work in abnormal psychology. This clinical work could be done in connection with the Juvenile Court and the public schools.

The qualifications of those who are to examine children may be put under five heads. 1. They must be fit by temperament and disposition. 2. They must be sympathetic. The ordinary medical rule of thumb methods find no place in dealing with mental conditions. 3. They must have a thorough training in biology and psychology. 4. They must have a good knowledge of medicine in general and particular of nervous diseases. 5. They must be men who are capable of doing original work so much needed in this field. All this cannot be done in the ordinary medical course, but perhaps the time will come when the graduates of our medical schools will be more than mere mechanics and will be fitted for doing original work. A medical school in connection with a university should be more than a training place for practitioners, it should also be a place of research. For this there is no better training than a course in arts made up largely of pure science.

It is not going too far to say that every child in our public schools and those coming before the Juvenile Court should be examined according to the following or similar outline.

1. Parental History—This includes history of ancestors and parental conditions.

2. History of the Home—Surroundings, facts of the child life as noticed by the parents, such as habits, achievements, interests and idiocynerasies of the child.

3. School History—Pedagogical record as to his class ability, and also facts of behavior noted by the teacher. Also his disposition, temperament, habits, interests, etc., as expressed in school life.

4. Medical History—This includes record of diseases and family history from the medical point of view.

5. Physical Examination—The usual anthropometric tests and the routine medical examination.

6. Psychical Examination—The Binet Scale of Intelligence, or its equivalent.

Some of the main points of our discussion may be summarized as follows:

1. Education requires a wider meaning in order that the results of science may be used to make life better and promote culture. The welfare of man depends on scientific research as carried on in great laboratories.

2. The presence of large numbers of feeble-minded, whence come the criminals, in all classes of society is a drag on our moral and intellectual life and a menace to the safety and well-being of society itself.

3. Society is responsible for the existence of the criminal, but it possesses the remedy—segregation of the feeble-minded.

4. All feeble-minded should be kept in suitable institutions, and as far as possible made self-supporting.

5. A yet more important problem is the supernormal child who should receive very

special education, for on him depends any real advance in science, and hence in civilization and culture.

6. Proper training in psychology should be given to all medical students. The position of medical men in this respect is to be regretted. Nearly all the work for the feeble-minded has been done by the psychologists.

7. There should be mental clinics in connection with all public schools and Juvenile Courts.

For those interested in pursuing this matter further, the following partial bibliography may be found useful:

Journals.

The Training School.
American Breeders' Magazine.
Eugenics Review.
Journal of Educational Psychology.
Journal of Abnormal Psychology.
American Journal of Psychology.
The Psychological Review.
Journal of Psycho-Asthenics.
Pedagogical Seminary.

Books.

Goddard—The Kallikak Family.

Davenport—Heredity in Relation to Eugenics.

Kellicott—The Social Direction of Human Evolution.

Woods—Mental and Moral Heredity in Royalty.

Dugdale—The Jukes.

Sandiford—Mental and Physical Life of School Children.

Whipple—Manual of Mental and Physical Tests.

Huey—Backward and Feeble-minded Children.

Lapage—Feeble-mindedness in Children of School Age.

Tredgold—Mental Deficiency.

Barr—Mental Defectives.

Stern—Psychological Methods of Testing Intelligence.

Report of the Royal Commission on the Care and Control of the Feeble-minded. (Eng. 1908.)

EQUIPMENT.

As physicians have always their instruments ready for cases which suddenly require their skill, so do thou have principles ready for the understanding of things divine and human and for doing everything even the smallest.—Marcus Amelius.

CITY WASTE DISPOSAL BY INCINERATION

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CITY waste is of such a varied and miscellaneous nature that at the onset it is expedient to define which particular kind is under consideration.

All house and trade refuse of a solid nature, in which is included garbage, or waste food stuff; old boots, tin cans, bottles, paper, some ashes from houses, straw, packing cases, barrels, fruit and vegetables from stores and warehouses, stable manure and sewage sludge, are some of the things that go to make up what we know as city waste suitable for disposal by burning.

In putting forward any claim to advantage by some particular method, it is necessary to compare those under discussion with others of a similar kind, used for the same purpose. The Towns Tip, known here as the Nuisance Ground, is familiar to us all with its unsightliness, its nauseating odor from the burning of putrifying refuse, and the comparatively large area of land laid waste for this purpose. While this may be the only practicable available means at the disposal of small communities, there is little excuse for a perpetuation of this order of things on a large scale, when the status of a town, or city, is arrived at, and when a sanitary, expeditious, and in some instances a profitable apparatus for disposal by incineration is obtainable.

At the same time it is unreasonable in all cases to look for a profit from such an undertaking, but rather to consider an incinerator as a part of the sanitary administration of the district, and something that will pay in service, if not in cash.

The primary object of a refuse incinerator is to convert the putrescent matter contained in city refuse into harmless products, by means of combustion, which must be complete and at high temperature, if nuisance is to be avoided.

Disposal by burning has long been a matter of research and experiment, and the problem of cremating in specially constructed furnaces was not seriously considered earlier than 1870, when, convenient tipping grounds having been exhausted, a refuse incinerator was erected at Paddington, London, which proved a complete failure.

Another of the earlier types known as the "Beehive" had two sets of bars, on the upper set the refuse was dumped, while on the lower grate coal was used for starting and maintaining a fire upon which the dried material fell and was finally burnt, for, from the unpromising nature of the material a self-supporting fire was considered impossible. A destructor of this class was erected at Richmond in 1884, and shut down in the following year.

A similar feature of double grates is embodied in the Decarie incinerator, one such being in use in Minneapolis some 12 years ago.

Fryer appears to have made the first successful attempt to burn refuse without added fuel, when in 1876 a refuse destructor was constructed in Manchester. In the earlier forms the chief difficulty was to obtain temperatures sufficiently high to effectively destroy the refuse and the noxious gases produced in the process of combustion. The strong draught necessary was obtained, first by tall chimneys, and then by the addition of forced draughts.

It is due to development along these lines that the process has made headway with the introduction of high temperature furnaces 2,000 Fht. and upwards by means of forced draught, induced either by powerful fans or steam blast. The heat obtained in these furnaces is sufficient to consume anything put into them, a residuum of clinker and ash being left.

In the older types of independent cells

the introduction of a charge of fresh refuse resulted in a lowering of the temperature with imperfect combustion of the gases, a condition which is obviated by increasing the number of cells, and by charging them in turn so that some are at their greatest heat when others are being charged, and by conducting the fresh gases over the heated surface of the other cells into one common combustion chamber where the highest temperature is maintained.

From the production of high temperatures to generating of steam was only a short step, and for some time this was done at the expense of a proper destruction of the refuse, but it is a principle that must never be lost sight of that the first duty of an incinerator is the entire cremation of all organic matters and vapors, and not until this has been satisfactorily accomplished should the utilization of the spare heat be attempted.

With present improved methods of construction such high temperatures are often obtained that no inconsiderable amount of waste heat is available, and steam boilers are generally made a part of the equipment of the plant, this will provide steam for the blast or to drive the fan, whichever system of forced draught is employed, and by absorbing heat from the waste gases will reduce the cost of repairs to flues, and a less expensive and lighter firebrick lining of the chimney will suffice.

Now, while the past history of the process may be very interesting, it is the present day practice and the difficulties due to localities, and class of refuse burnt, that are likely to be most instructive and to arouse that discussion, without which the reading of papers at conventions is unproductive of the good intended.

Naturally in these notes some descriptions of the incinerator at Moose Jaw and the method of working same may be much in evidence, being operated under similar conditions and with the same class of refuse that will be met with elsewhere throughout this Western country.

In the collection of our refuse such niceties as, wrapping in paper, the separation of garbage into several classes, and from the general rubbish, are non-existent. All house and trade refuse is collected and dumped together at the incinerator, where it becomes automatically mixed with a large quantity of stable manure, as both are being delivered in the course of the day.

The civic waste of the West has not the same calorific value as that of Great Britain, being almost entirely devoid of coal ash or wood, and at times, after a day or two of rain, much care must be exercised to get it to burn at all. In winter the refuse comes in frozen, and when put into the fire grate heat is quickly absorbed in thawing and evaporating the moisture. We then found it advantageous to mix it with a few ashes, though they were ever so poor, and the teamsters were instructed to collect with each load of refuse a few shovelfulls of these.

The best ashes we get from small houses using heater stoves. Furnace ashes were no good, being neither clinker or dust. This latter is the only house refuse we do not collect.

To obtain the best results and complete combustion the conditions necessary are:

A sufficient air supply brought into intimate contact with all parts of the fuel, and the maintenance of the temperature of the fuel up to ignition point till the whole is consumed.

Charging must be done in small quantities and often, put on to the back of the grate and drawn over the fire as required. Charging the fires must be done in series, one fire being charged while the remainder are burning brightly.

Clinkering, or cleaning out the ash, for very little clinker is made in this country, should be quickly and skilfully performed, or much heat will be lost. This is very laborious work and hand labor should be minimized as far as possible.

Air leakage from flues must be avoided, and an air pressure in the ashpit of 3 to 4 inches, with a temperature of 200 Fht. or upwards in the blast, should be maintained while the damper to chimney requires to be very nicely adjusted or the heat will quickly go up the chimney, and the temperature in the combustion chamber will rapidly subside.

The combustion chamber will be of the reverberatory type of such capacity as will allow complete destruction of the noxious gases and a temperature of 1,800 Fh. and upwards must be maintained.

All modern high temperature incinera-

tors will have the following features: Forced draught, either steam blast or air; a drying hearth above the grate, a combustion chamber, where the gases are mixed and raised to incandescence, a steam boiler for utilization of waste heat, and econizer to heat the feed water and a regenerator for the air blast.

Other things of equal importance are some arrangement to discharge direct into the combustion chamber from above, carcases of horses, mattresses, wet damaged fruit and certain other things that cannot be consumed during the burning of a single fire on the grates, and which would come out with the ashes only partly burnt and required to be thrown in again. A storage floor to hold 24 hours' accumulation of refuse, and a tipping platform of such size and arrangement that the ordinary box wagon can safely and conveniently be brought to the tipping sill.

A brief description of the plant in operation at Moose Jaw and results obtained may here be permitted.

The incinerator is a Heenan & Froud high temperature incinerator, with three cells in one continuous chamber. Fires are fed from the top, where the refuse is shovelled into hoppers, the tops of which are level with the floor of the tipping and storage platform. Each hopper is 1 1-3 cubic yard capacity, the contents are discharged on to a small drying hearth at the back of the fire. Each cell has a grate area of 30 supl. feet, formed with channel bars perforated for admission of the air supply. The blast is air supplied by fan drawn from above the storage floor.

A pressure of 3 to 4 inches is given with temperature around 200° Fht. With a higher pressure we find that the temperature of the air blast drops, and at present have got best results with the 3 inch pressure.

The fan for the blast is driven by an enclosed steam engine, which, with the feed pump, absorbs approximately 15 per cent. of the power generated by the waste heat.

A Babcock and Wilcox steam boiler of 150 h.p., at 1,20 lbs. pressure, with 1,700 supl. feet of heating surface, is provided.

The refuse is the kind peculiar to this part, the only especial feature being the abnormal quantity of empty tin cans, all of which, except the very large ones, are passed through the fires along with the refuse, 52 per cent. of which is stable manure.

Under ordinary working conditions an average of two tons per hour is consumed. The fires are cleaned about every two hours. The ashes and clinkers run about 20 to 25 per cent. of the refuse burnt, and the water evaporated per pound of refuse burnt was, at a recent test, 0.86 of a pound. The operating costs average a little over $1 per ton.

During ordinary dry weather there is no difficulty in keeping up a temperature in the combustion chamber of 1,800° to 2,000° Fht. Our chief trouble was in winter, when quantities of stable manure, with some frozen snow, were brought to be burned.

Until quite recently no serious effort was made to utilize the power in the steam generated by the waste heat, except a very small amount used by the department in thawing and cleaning the sanitary pails now in use in the Moose Jaw closets. Observations have been made several times under working conditions, which indicated that after allowing for use on the plant itself, there was at least 100 h.p. available for other purposes. This is now to be used for the purpose of pumping sewage at the disposal works, which are situated conveniently near, the steam being piped across the short distance in 4 inch insulated pipes.

Without going outside the scope of work of a health department, there are many uses to which this waste steam might be put and so reduce the cost of disposal of refuse, for instance:

The establishment of baths and washhouses; steam disinfecting station; electric lighting of depot and works, or even to generate current for ordinary purposes.

Of other residuals very little use has been made so far, the clinker is made small in size, and when free from dust is a suitable material for bateria beds, and some has already been used for that purpose.

The dust from the combustion chamber can be used as a body for disinfecting powder, and in a small way has already been experimented with.

ALL THE TYPHOID OF A COMMUNITY FOR FIVE YEARS FROM A CARRIER THROUGH MILK

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IN March, 1908, an outbreak of typhoid fever at North Branch, Minn., was investigated by the writer, then acting as Epidemiologist for the Minnesota State Board of Health, under the secretary of the Board, Dr. H. M. Bracken.

North Branch proved to be a prairie village of 700 or 800 inhabitants, i.e., of about 150 families, chiefly Scandinavian. It is about 40 miles north of Minneapolis, on the Northern Pacific.

Following the first step usual to us in the investigation of all epidemics of doubtful origin, every existing case was individually sought out and cross-examined. They proved to be as follows:

	Name.	Sex.	Age.	Date of earliest symptoms.	No. in family.	Evidence as to contact infections.
1	Mrs. C. S.	F	*	End of Jan.	5	No preceding sick association
2	Mr. G. H.	M	*	End of Jan.	2	No preceding sick association
3	G. R.	M	15	Feb. 1	4	No preceding sick association
4	G. R.'s sister ..	F	20	March 6	.	5 weeks' association with sick brother
5	V. P.	M	5	Feb. 1	5	No preceding sick association
6	R. Pn.	M	12	Feb. 15	5	No preceding sick association
7	R. Pn's sister...	F	3	March 10	.	3½ weeks' association with sick brother
8	C. L.	M	12	March 1	8	No preceding sick association
9	C. L.'s brother..	M	8	March 11	.	10 days' association with sick brother
10	E. A.	M	35	March 11	5	No preceding sick association

*Adult.

A study of this list shows 10 persons sick; three only (No. 4, 7, 9) give a history of association with previous cases. Of these three, No. 9, if secondary to his brother, must have contracted the disease from his brother, in all probability during his brother's incubation stage. This is not very infrequent in my experience. The other two (Nos. 4 and 7) if secondary.

There is little doubt in my mind that these three cases were really secondaries; although it is evident from the dates of earliest symptoms of Nos. 8 and 10 that the primary source of infection of the primary cases was still operating at the time when the secondaries, if secondaries, must have received their infection. My reasons for considering them secondaries are based on the theory of probabilities—thus, about 25 families, representing about 125 individuals constituted, as will be shown later, the total group exposed to the primary source of infection. Seven of the 25 families were affected in the course of the outbreak, constituting a little less than one-third of the possible number; the unquestionable primaries (the first cases in the seven families) seven in number, formed one-eighteenth of the possible number. These figures give, then, a measure of the likelihood of any one family or any one person being affected by the primary source.

The second cases in each family occurred in three out of seven possible families, and in 3 individuals out of a possible 34.

But during the period when the second cases arose (March 6-11), the primary source attacked only two new families out of a possible 20 (i.e., those not yet attacked), thus involving only two individuals out of a possible 100 in these families. If now all the five cases occurring at this time were from the primary source it would be

hard to understand why the proportion of previously unaffected families attacked should be 2 out of 20, while the proportion of previously affected families attacked should be 3 out of 7, or over four times as great. (Taken as individuals, the group of 34 represented in the seven families would have yielded 3 cases, as against 100 in the 20 families yielding 2 cases, which is again over 4 times the due proportion.)

Evidently some factor existed tending to make typhoid fever much more likely to occur in the one group than in the other—and evidently this factor was the presence of a previous case. In fact it may be stated as a general rule that the danger of contracting typhoid fever from a case in the same house is several times as great as the danger of contracting typhoid fever from any one of the ordinary public routes—water, flies or food—which may be operating at the same time.

Eliminating these three cases (Nos. 4, 7, 9), as practically proved secondaries, seven persons (Nos. 1, 2, 3, 5. 6, 8, 10), are left to be accounted for. These are the primary cases from the histories of which the primary routes of infection, and hence ultimately the primary source, must be deducted. The first point to decide is when they received their infection? Was there a single occasion on which all were infected, or did the infection occur from day to day for some time?

The average incubation period of typhoid fever from date of infection to date of earliest symptoms is exactly two weeks. But if a single definite infection of a large number of people occur on a given date, the cases arising therefrom will not all take sick exactly two weeks later.*

The first cases will naturally be those who have the shorter incubation periods. But even in a very large number of cases, the extremes are not likely to be greater than about one week for the shortest, three weeks for the longest, always provided that the date of earliest symptoms (not the date of going to bed, or of calling the physician) is used for the calculation.

The North Branch primary cases, arranged by dates of infection, group themselves thus: Four cases (Nos. 1, 2, 3, 5), were infected about the middle of January; one (No. 6) about the first of February; one (No. 8) about the middle of February; one (No. 10) about the end of February.

It is therefore impossible to select any one date of infection which will give reasonable incubation periods for all of the cases. To assume that the infection in January, which gave rise to the first four cases, gave rise also to the others, would be to assume incubation periods of four, six and eight weeks for the other three, respectively. Hence to "satisfy the equation" we must search for a continuous or at least repeated infection taking effect four times at intervals of approximately two weeks.

Who was the source of that infection and what was the route of transmission?*

In a community supervised ideally from the Public Health standpoint, the infected persons, the only source or possible sources of infection, would be known, listed, under guardianship. Should they infect anyone, the development of the first case would be enough to precipitate an immediate "rounding up" of the "suspects," and the prompt discovery of why and how they or some of them "fell from grace"—of why and how they or he broke the prescribed regulations sufficiently to cause such a disaster.

In the existing condition of affairs, however, we do not at first know whom to suspect, and the guilty party must be laboriously traced by discovering, first, the guilty route of infection and then following it back to its contaminator. This can hardly be done from the investigation of single cases, and we must usually wait until there are several cases to work on in order to get data enough for deduction.

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*See "Mankato, Typhoid Fever Epidemic of 1908," Journal of infectious Diseases, November, 1911.

*Source is used to mean the person (sometimes in some infectious diseases, the animal), in whose body the germs of the disease in question are living, growing and multiplying, and from whose body the germs breeding there are distributed to other persons. Routes of infection are the physical conveyors of the germs derived from these sources—the physical mechanism through which the transfer takes place.

This *post hoc* method is the Sherlock Holmes method; but not half so practical or prompt as the regular police method, which consists in knowing the suspects before hand, arresting them all, and making each prove himself not guilty if he can.

However, we are still in the Sherlock Holmes stage of Public Health Epidemiology. Hence, in most outbreaks of an infectious disease it is necessary to trace out the sources by careful deduction and reasoning, after the fact; not by foresight or knowledge before the fact.

In typhoid fever the possible routes are water, milk, food, flies and contact.

The general condition of these routes in the community and the particular conditions of these routes for each infected person, at or about the date of infection, must therefore be determined by minute, alert, patient enquiry, if the guilty route is to be found, and the infection traced to its source.

These general conditions may be summarized for North Branch as follows:

Water—Almost every family in North Branch possessed its own well; this was almost invariably a driven well, consisting of a sand point, to which lengths of 1½ inch pipe could be connected one by one. The sand point being driven home with a maul into the soft soil, a vertical length of pipe is screwed into, and also driven down, carrying the sand point before it; another length is screwed to the first, and this also is driven down; this process is repeated until the point reaches water, usually at 15 to 30 feet.

In North Branch, sand overlaid hardpan, the thickness of the strata varying a good deal.

Such supplies are common in Minnesota and usually yield water which is well filtered from a bacterial standpoint, but shows a more or less high, if harmless, chemical pollution, the degree of chemical pollution depending on the number and form of the neighboring privy-vaults, manure piles, etc. Such wells cannot be driven, practically speaking, except in very sandy soils; and therefore such wells are practically speaking always safe wells. At all events the writer has never been able to tract typhoid fever or dysentery to such a well.

Milk—About two-thirds (100) of the total families (150) in North Branch obtained milk from cows kept by themselves or by their immediate neighbors; thus there existed about 75 such sources of milk supply, supplying one or two families each.

The other one-third (50) of the total families obtained milk from two dairies, both situated near the borders of the village, but on opposite sides. These two dairies divided the trade pretty evenly, having about 25 families each. Both were quite ordinary dairies, operated as family affairs, not better or worse than the average.

Food—The supplies were the ordinary supplies of the ordinary Minnesota town.

Flies—These were in March, of course, absent.

Contact—The usual opportunities for contact infection existed, here as everywhere.

These general conditions being given, the problem was to see how the special conditions surrounding each patient at his date of infection relate to them.

The seven primary cases, classified by ages, showed three adults (Nos. 1, 2, 10); three boys of school age (Nos. 3, 6, 8), and one boy under school age (No. 5).

Some of the local authorities strongly suspected the school well, which supplied the village school and drew its water from soil through which passed the school sewer. But the school well could not account for the three adults, or the boy under school age, unless they had used the school well, at an entertainment. Enquiry eliminated any such entertainment or other equivalent. Moreover only the boys were affected. A school well used by the whole school would surely affect girls also; especially since, in this village, the school girls were twice as numerous as the school boys. Nevertheless, careful inspection of the school was made, and all children detained from school were looked up, lest any cases might be missed. Subsequent analysis of the water, not used however in arriving at the conclusions here recorded, showed the usual conditions for this kind of soil—high chemical pollution, with practically no bacteria present.

Were the private family wells the source? Leaving aside the fact that the wells in use in North Branch can hardly

be polluted by design, much less by accident, the fact that each of the infected families had its own well would exclude this method, except on the hypothesis that each well had been separately infected at or about the respective dates of infection for the families concerned. This extremely improbable hypothesis was practically eliminated by the fact—that previous typhoid was too rare in North Branch to supply enough infectors to infect each of the seven wells.

A common infection of all the wells through the common water bearing stratum would be quite possible in some soils, but not in sand. Moreover, such an infection would not give a random distribution of a very few cases, but a grouped distribution of a great many. These considerations quickly eliminated the water.

Infection of a small scattered number of people might occur from a common social source if they met at a club, church, society, etc., but the people infected in this outbreak, did not belong to any one "set"; did not attend the same churches; did not employ the same grocers; did not even know each other to speak to, despite the small size of the village. To determine this point, the usual plan was followed of going over the whole list of patients with each individual patient; thus securing mutual rejection or confirmation of relationships from each of the patients concerning all the others.

This eliminated "Social Typhoid" through food or contact, visiting the sick, etc. Flies were eliminated by the time of year (March), leaving milk the only remaining solution.

It quickly became evident that although at the time of investigation, the infected families had no common milk supply, at the respective dates of infection every infected family had been users of the milk of one dairy, designated here.

Not a single infected family had at that time used milk from the only other dairy.

The situation was this—of the 150 families in the village, 25 only used P. milk. Of the seven infected families all belonged to this group. Hence of the 77 separate possible routes of transmission through milk, only one fulfilled the essential conditions.

At this point Dr. Thomas Zeien, the M.O.H., and the oldest of the two physicians in the village, called attention to the fact that in his seventeen years' experience in the village, there had been no native typhoid fever for the first twelve. During the remaining five years, however, to date, native cases of unknown origin had not been infrequent, occurring in small scattered numbers at considerable and irregular intervals.

A list of these cases was secured, and a visit made to the dairy, where it was compared with their list of customers.

In brief it developed that the family had arrived and begun the milk business in North Branch just five years before; that of the 21 private native cases which had occurred since, 17 were definite customers, two occasional or indirect customers; the remaining two might have been. The other dairy had not at any time any of these families as customers. Of course all this pointed directly to a carrier connected with the dairy.

The family consisted of two brothers; one milked, the other delivered. They had no hired help, and no visitors except a sister. Their father, mother, another sister and a grandchild constituted the family. There was no history of recent typhoid in any one of these; the brothers who handled the milk never had it; but the father, mother and both sisters had it twenty-two years before.

Careful cross-examination showed that no one handled the milk but the brothers, but the mother washed the cans. She, however, seemed a reasonably conscientious and cleanly woman, and showed hot water facilities, maintaining that she used it scalding hot always.

Infection of the milk by flies from the outdoor toilet used by the as yet hypothetical carrier was not possible at this time of year; the nature of the soil and the distance of the toilet from the well eliminated possible infection of the milk through the water supply, used in washing, possible adulteration, etc. It became evident then that the mother was the only carrier who could "satisfy the equation."

The evidence was so conclusive that I at once forbade any further handling of the cans by the mother; promising to close up the business if another primary case

developed on their milk route later than two weeks after date of the order.

This investigation occupied one day and one half. Arrangements were made with Dr. Zeien to send blood for the Widall test from the whole family, and feces and urine from the mother. These were examined at the Minnesota State Board of Health laboratories by Dr. A. J. Chesley, now director of the Division of Epidemiology.

The urine and feces were negative; the blood of the mother was positive. Shorthandedness in the laboratory prevented following the matter up further. Fortunately the logic of subsequent events completed the evidence, thus: Owing to the general public learning indirectly the source of the outbreak, the family closed up the business and moved away within a month of the investigation. During the five years that have elapsed since, not a single case of native typhoid has developed, as contrasted with 21 cases in the previous five years. Thus the village has returned to the typhoid-free conditions it enjoyed before the advent of the P. family.

The intermittency of the infection, despite the continuousness of the mother's work on the cans daily for the five years can be explained by the probable intermittency of the discharge of the germs from her body, by the fact that she usually kept her hands fairly clean, by the fact that she generally did use scalding water. Only when the combination occurred of the existence of a discharge of germs, infection of her hands from it, failure to wash her hands well, and failure to scald the cans well, did infection of the milk occur.

The small number of persons infected each such time probably depended on the fact that in scalding the cans, she practically washed her hands clean when doing the first of the lot, the others escaping; and also by the fact that the people of North Branch on enquiry were found to use milk very little for drinking, and chiefly for diluting coffee; also the prompt delivery of the milk lessened the opportunity for any possible development in the milk of the typhoid bacilli introduced into it. The other dairy at times bought milk from P. The escape of all of their customers shows that they happened never to buy an infected lot.

DUTY.

Duty is a power which rises with us in the morning and goes to rest with us at night. It is co-extensive with the action of our intelligence. It is the shadow which cleaves to us, go where we will and which only leaves us when we leave the light of life.—Gladstone.

CHRONICLES "EN ROUTE"

JAPANESE JOTTINGS

By FLORENCE WITHROW, B.A.

PRETTY posters, gay with cherry blossoms and bright lanterns soon informed us of the Cherry Festival. The theatre in which we saw the dance was approached by avenues brilliant with lanterns and imitation blossoming boughs, this whole district being en fete. The immense pleasure structure, corresponding to Continental Kursaal or Casino, was in fantastic style with soft oiled woods and airy finishings, and was the cleanest public building we ever entered. It was difficult to realize that hundreds pass in and out every evening. The secret of the immaculate condition is the stocking foot, for no shoe or clog dare be worn on the matted floors.

A JAPANESE BELLE

In striking contrast were the Japanese and European reception rooms. The delicate refinement of the former we can best describe as "superlative." The sliding panelled walls, set in black lacquer frames were of ivory satin paper, with black and gold damascene metal trimmings. In the centre of the floor was a handsome pink marble brazier filled with powdered grey ash and with a few ruby embers gently smoldering. Soft iris lanterns lent a pale flushed glow to the artistic rest room. On the finely-woven matting were large padded squares (3 feet square) of rich satin damask in lovely shades—yellows, peacock blues, aesthetic browns and greens. We concluded that upholstered chairs were monstrosities. But, truth to tell, these floor cushions are more picturesque to gaze upon than comfortable to "squat" on.

On the raised polished dais, which is a feature of every living room was just one bronze urn and one tall bit of porcelain, each bearing a cherry spray. This paucity of ornaments is a native characteristic.

Never has an ordinary room more than three or four art objects at one time. Japanese love of beautiful things is so intense they will not neutralize effects by too great variety and never do they have a shop-like display.

The red carpeted, Nottingham lace curtained salon for foreign visitors appeared vulgar in contrast with its dainty neighbor just described. We sat on mediocre upholstery in this "parlor" and feasted our artistic sense on the poetic room opposite.

After being importuned by powdered and rouged small maidens, to buy the Geishas' photographs, we were led to the tea room for the classic "tea ceremony." The tables were black lacquer and reflected the colored lanterns. In one corner presided the Geisha of the Tea Service. She performed this ancient art of making and pouring tea with charming delicacy and dignity, making it almost a solemn rite, with features placid and movements slow. Her lovely kimono, trailing on the floor, was a thing of beauty and of consummate art. On finishing, she bowed low and, with never the shadow of a smile on her pale oval face, retired with gentle backward motions. We sat in half dazed amazement and felt like clumsy hoydens in contrast to this sylph-like emotionless "vision." Was she an apparition or an artist's dream this olive-skinned Geisha?

Little maids of ten and twelve in training at the Geisha school passed the tea bowls, which in ceremonious manner they placed before each guest. Next they brought individual plates of cakes, borne high above the head with both hands. A deep bow—not a curtsy—followed every act. After this imposing formality we wondered dare we eat the elegant viands and were terrified lest we make a faux pas. Childlike we carried away our cakes in filmy tissue napkins, but the tea remained but once tasted—sena or stewed grass were preferable. Like the California peach the beauty was in the colors of the Geisha rather than in the flavor of the beverage.

We must banish the idea that all Geishas are undesirable characters, for many are respectable, well trained young ladies whose function is to entertain refined as well as vulgar people and whose service is engaged in royal and in private households. Their singing and playing appears crude, but it may be like Pope's "discord" merely "harmony not understood."

After the tea ceremony we were escorted to the theatre, and found ourselves in a box adjoining the Royal balcony. Below was the Japanese reserved section, carpeted with a thickly padded rug, but to our astonishment there was not a chair in the entire theatre save those upon which we sat. The floor slanted and all classes sat on their own two knees. Again we preferred the monstrosity called a chair for comfort.

As the notice distributed in the foreigners' seats was so funny "done" into our language we must give this murdered English in toto. "There has about just happened the Great Demise of H. I. M. the Empress Dowager, so to show our great Lamentation it were high time to become our grief to prorogue our show for a week, but we will prolong it some more with changing dances and new made deciorations." Surely West has met East on the common ground of theatrical advertising.

Both dances and decorations afforded a curious spectacle. The scenery was pretty, representing first an interior then the exterior of the Emperor's summer palace, and finally the famous cherry avenue of Uena Park, Tokyo. Fairy lights were profuse and the electrical effects excellent. The dancing was intolerably slow and tiresome and the movements monotonous. Wherein lay the skill of Geisha dancing we failed to see, yet these girls undergo years of training. But we must speak in highest praise in one respect of the Japanese dance. There is absolutely nothing vulgar or immodest. The abominations exhibited in American vaudeville are entirely lacking. No hideous contortions of kitchen dip, turkey trot and kindred vulgarities. Rather is there a stateliness and grace. Indeed some of the movements suggest the motions of Greek priestesses in solemn procession, although the variegated costumes in gorgeous brocades belied the priestess idea. The obis were enormous and the coiffeurs monstrous. These obis sometimes cost $150 to $200, and have patterns as large as on wall papers. What a picture these living dolls made with perfect rhythm of head, hands and feet, and the fascinating flutter of fan and parasol.

Perhaps the most curious performance we witnessed was at the jui-jitsu school. These schools correspond with our gymnasiums. They exist in all cities and large towns, and are splendidly built wooden structures of ample size and attractive appearance. As elsewhere the visitor must shed his shoes and put on felt slippers, for the floors are highly polished and exhibit an immunity from dust, like every other floor in Japan. If the gentle reader doubts let him go with a duster and prove it.

We were entertained by two sets of performers, the jui-jitsu or wrestlers and the fencers. Simultaneously they opened proceedings with long drawn bows to their military instructors on the platform, then to each other. Finally began two absurd performances like two rings in a circus. Had we no eyes we would have declared it was a dog's kennel, such barking and yelping was there. With eyes we almost believed it was an insane asylum. The men were ludicrously attired in protective outfits. This particular day the special feat of the jui-jitsu was to train the legs, so to upset one another seemed the sole object of each man. Hardly a sound did the wrestlers emit, for the barking came from the swordsmen. They reminded us of monkeys silently playing with each others tails. How these fellows did labor over each other's feet and legs to trip them up! Had all four extremities been exercising and the supple torso as well, jui-jitsuing would surely have astonished us.

While striving to describe things Japanese we had better attempt an account of our one native lunch or tiffin. Did we eat it, or merely make pretense at consumption? Having a hungry desire to try a real Japanese meal we chose a high class tea house at Nara, where we were conducted to any airy upper apartment, having a series of rooms with lattice paper sides which opened on a long balcony. The view over the fish pond and groves was idyllic. Like all Japanese rooms our luncheon chamber was characteristically empty—at least, nude and void when we began, but on the floor a half hour later was a medley of indefinable dishes, delightful plates and shapes and gems of lacquer trays. Two little maids with engaging manners and inexhaustible bows, brought in the courses to the number of nine. At the end of the meal the boast was who had managed the most. Some had to confess to only two courses, and those European ones, which our thoughtful Mr. Suzuki ordered, to save us from starvation.

Having misgivings as to how much our palates would revolt against, he considerately provided plain omelette and edible fish. Several queer messes were absolutely impossible for foreign stomachs, save those of strongest equilibrium. Fish had the effrontery to appear in five different disguises—first in an unsavoury soup, looking like boiled fish water. Fortunately this was covered, so we barely lifted the lid. A peculiar jelly the color of bottle green, trimmed with pink candied rhubarb was most pretty to look at, but queer to eat. All the courses were tastefully garnished and set in oddly shaped dishes—never a round flat plate like ours. Each individual table—in reality a one foot high black lacquer stool, shone like a mirror. Personally we sacrificed the viands but did want to carry off the appurtenances in china and lacquer and the carved ebony chop sticks. Some of us less patient or more hungry must confess to being fed by the little waitress as we could not manipulate the chop sticks as deftly as she.

Another thing our hearts craved was the handsome, brass-hooped polished wood tub, which is a requisite of every meal. It is the only vessel common to all and from it rice is served with half the courses. No bread, butter or potatoes are used. The fruit alone looked natural, but even oranges and apples were cut in unfamiliar style. Tea at the beginning and sake at the end of the meal was served in microscopic cups of thinnest china. As before said the room looked like a china shop when we finished but with surprising celerity the small white socked maids in blue kimonos and no aprons, silently removed everything and left the room in its pristine bareness. On returning to the ground floor the entire household bowed us an obsequious adieu and assisted in the shoe fastening. Then our eternally smiling rikie men hurried us away, past the tall many storied Pagoda to the beautiful Nara Temples. None, save those at Nikko, have such ideal surroundings.

Nara was once one of the ancient capitals, and the royal demesne is still pre-

served in an immense park, through which rove hundreds of sacred deer. Unique in beauty are the forest avenues, lined with moss grown lanterns. Three thousand carved in stone, attest interminable lines of ancestors, for each is a tribute to some bygone scion of a family. Five hundred in brass and bronze adorn one temple. In shape they are fantastic, in design chased and ornamental. Two distinct types are there—the Shinto and the Buddhist. More beautiful lanterns than the Japanese we doubt if the world possesses. Some in wrought bronze stand ten or twelve feet high and have work, dare we say as wonderful as Ghiberti's or Cellini's.

The colossal gold Buddha (50 ft. high) sitting on his lotus throne with clasped hands and meditative mien, is an object of great veneration. Thither pilgrims have come for nigh 1200 years. There is a solemnity in the inner sanctuaries of these great idols and an air of mysticism is vaguely felt. With imposing dignity they sit in sombre gloom, only faint touches of light illumining dark corners and melting upon golden images. Marvelous vases of metal adorn the altars and graceful clusters of silver lotus glimmer from shadowy recesses.

A ceremonial dance was performed in one temple for a paltry fee. The young girls engaged went through the movements in a perfunctory way, showing no skill or fervor, and their poor little minds had probably not a vestage of religious thought. They seemed glad to divest themselves of the gew-gaw head dress and shabby green trailing robes.

At a children's shrine we watched a poor mother who had lost her baby boy. She was busy piling up in a trough of water stones which continually slipped. This she did, believing it helped her baby's soul, for that was the task assigned it according to her heathen belief. At another shrine was a worn off image, in the mouth of which, we saw a poor victim of toothache, thrust his hand, hoping thereby for relief.

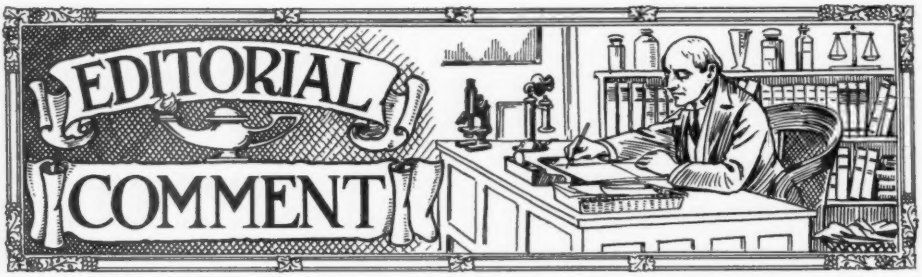
A happy picnic day to the Kodzu river was a novel experience. There we ran the rapids in a perilous barque, then lunched in a sylvan Eden amid the freshest tints of spring. A Japanese lunch basket is indescribably dainty. A frail box of thin white wood is supplied each picnicker containing chicken, ham, tongue and beef, with lettuce and pickles. In another box is stodgy sponge cake. A charming tea outfit and rosy apples and oranges complete the meal.

Another holiday trip was to Lake Biwa where we boarded a spotless wee steamer, clean as a white swan, and sat on the matted deck, the superfluous chair being absent here also. Next we changed to a curious craft to sail a stygian canal. It might well have been the Styx, save for the clammy chill, for we immediately glided into a three mile tunnel. No light was there except the faint and fitful flicker of a red lantern at our prow, gruesome and ghoulish was this strange voyage. Thoughts of Jean Valjean came and we shuddered for deeds done in dark watery caverns.

Nagoya was the next town visited. Here the object of interest is the famous Shoguns' castle with massive walls and moat. In mediaeval masonry in Japan, as even yet, the huge stones were placed sideways or diamond-wise and the walls and buttresses were perceptibly curved. The superstructure of the old Shogun stronghold is a huge timbered building in four tiers with gigantic upturned roofs. Reflected in the still waters of the moat it is like a phantom castle. The interior is disappointing, resembling an enormous barn or granary, with monstrous beams and heavy planks. This mighty structure reveals the power of the Shogunate and the strength of feudal days. As this sketch is simply impressional bits of history, we regret, cannot easily be fitted in. What reams of fascinating story could be written about imperious Shoguns, secluded Mikados, powerful Dymios, and ferocious Samurai with their Bushido code of chivalry!

From Nagoya to Shiduoka is a ride through a happy valley. Mountain and vale are filled with the bushy tea plant, for here lies the garden of this industry. We rickshawed along the dyke road, and examined the sturdy shrubs at close range. Up the hillside were the picturesque pickers nipping the new leaves. The most valuable tea plants are grown under arbors of matted grass and great care is taken of their "constitution" that they do not get sunburned or exposed to the wind.

We reserve Miyanoshita and Fuji, Tokyo and Nikko for next month.



Lest We Forget.

There is but one subject before us to-day. We can think and talk of little save the war. We stand appalled at the suddenness of it; at the magnitude of it; at the horror of it. Some of us who have had the duty of examining and pronouncing physically fit the Canadian boys who are going to take their places beside the fighting men of the Mother Land have been stirred to the very depths and it has been a far harder trial to stay home than it would be to don the King's uniform and go. There will be work aplenty for the Army Medical Corps on the battlefield and at the hospitals. Modern surgery and preventive medicine will show what can be done in these days. The wounded soldier knows to-day the perfection of surgical technique and the prophylaxis of antisepsis. The sick soldier knows the accuracy of diagnosis and the efficacy of serum treatment. The troops as they march upon the field have been protected against dangers subtle and unseen by the needle of the inoculating physician. Right upon the firing line will be found the uniform of the Army Medical Corps. Back at the base hospital the surgeon will work, far from the sounds of warfare. All will be toiling towards the same great end, the alleviation of human suffering in this greatest of all conflicts. We ought to be truly thankful for the triumphs of modern medicine and surgery. We believe we are. One thing is certain. The present crisis will prove the theatre for demonstrating all that is really possible through our science and art. It will not be written during the present war, as it was in the Crimea, that 21,000 soldiers lay buried before Sevastopol, having succumbed to preventible diseases. War is cruel, war is brutal, but it is to the credit of our profession that we have been able always to mitigate some of its barbarities. There is where some of us would gladly be, out upon the firing line with the other medical officers, but we have written this and we have prefaced our Journal with the greatest war poem in our language lest we forget our duty here at home. He also serves who only stands and waits, and in the waiting gives himself whole-heartedly to the tasks which have grown harder on account of the insatiable appetite of the demon war. There is business to be carried on. There is the sowing and the reaping if we and they are to be fed. There are the ideals of Canada to be held high with a confidence and courage nothing short of heroic. Why should we drop our work and stand idly by? Some must go. Others must stay. If we are brothers those who stay will keep the wheels of commerce moving and the house in order against the return of the warrior who has tasted the smoke of battle even at the cannon mouth. When he comes he shall be flushed with the glory of a great victory, a triumph for democracy. Let us not forget.

The Great Consulting Room of a Wise Man is a Library—Dawson.

Conducted by

O. C. Jay.

HEATHER

AN unusual Government publication has recently been issued by the Dominion Parks Branch of the Department of the Interior. It consists of a small souvenir booklet, artistically bound in duplex leather, wild grass paper and tied with an olive green silk cord. The lettering is embossed in gold and a very unique design has been chosen for the cover. The latter is cut out so as to form a sort of frame, and in this is inset a spray of Canadian Heather from the Rocky Mountains Park, the purplish flowers of the heather against the wood-brown background, making a very attractive color combination. The matter is set up in 10 point Caslon Old Style type, and the booklet is illustrated throughout with vignettes of scenes in the Banff and Yoho Parks, printed in golden olive by the offset method. By this method, which has so far been but little used in Canada, the difficulty which formerly existed in printing half-tones on anything but smooth-faced paper has been overcome. The process involves taking an impression from the plate on a cylinder covered with a rubber blanket and then transferring or offsetting it to the paper, which is carried round a third cylinder.

It will no doubt be a matter of surprise to many to learn that Canada possesses a heather of her own. This plant is not, as it has sometimes been called, a "poor relation" of the Scotch heather, but has a family connection and standing of its own well recognized by botanists, and is nearly allied to the Heath of the British Isles. The booklet gives an interesting account of the locality from which the souvenir was gathered, Simpson Pass, about thirty miles south of Banff, and of some of the legends and stories connected with the heather in other lands. Its main purpose, however, is to call the attention of Canadians to the National Parks of the Dominion, not only to the attractions they offer to those who are able to visit them, but also to their value in the national life. Their commercial potentialities are somewhat startling. It is pointed out that owing to the increasing modern taste for travel, striking scenery has become one of the most valuable sources of revenue a nation can possess. The tourist revenue of Switzerland per year is placed at 150 million dollars, that of France at 600 millions, that of Italy at over 100 millions. The sum which Americans annually spend abroad is estimated at the enormous total of 500 million dollars. It would appear therefore, that the creation of national parks, which are one of the best means of attracting and providing for tourist travel, may well be considered as it is now being considered in the United States, as a "solid business proposition."

It is on other grounds than the commercial, however, that the Parks lay claim to recognition. Chief of these is an aid to producing efficient citizens. These great natural reserves are reservoirs of vitality for the race. As an antidote to the ills of over-civilization and the complex life of modern cities, they offer the opportunity for life in the wilderness and the best sort of re-creation where fresh air, sunshine and beautiful natural scenery are combined. The problem of the preservation of the vitality of the race is admitted by all conservationists to-day, to be the first of all conservation problems, and the value of

parks, playgrounds and recreation in this respect is each year being given a larger place.

The educational and patriotic influence of the parks is also touched upon as well as the work which the Dominion Parks Branch is doing in the preservation of native wild life in connection with the buffalo, elk, antelope, etc., as well as bird life. There is also pointed out the need for the creation of historic parks as a means of preservation for our historic sites, many of which we are allowing to disappear.

A new line of development which is worthy of consideration, is suggested, viz.: the provision of national parks near our congested centres of population. All modern town planning makes provision for parks and playgrounds within the city itself, but while these are useful and necessary they provide a means of recreation for a few hours at most. The national parks would reserve large areas where people would be free to go for as long as they desired. Such parks would be, in reality, "people's estates," and would afford to the ordinary citizen many of the advantages which the man of wealth possesses in his country estate. In the words of the booklet they would be "places where the poor could get a summer cottage or camp site for a nominal rental, where boys and men could camp and fish and study nature, where the sick and delicate could find new store sof health in the great out-of-doors, by right of citizenship, without leave or hindrance of anyone."

There is still within easy reach of many of our large cities land available for such a purpose which is either public domain or procurable at low cost. It would seem worth while considering the advice given by Ambassador Bryce in Ottawa, before his return to England, namely, that the time to set aside public domain for the future needs of the people is now, not when the encroachments of civilization have rendered this almost impossible.

A SPRIG OF MOUNTAIN HEATHER—Being a story of the Heather and some facts about the Mountain Playgrounds of the Dominion—Published by the Department of the Interior, Ottawa—1914—*J. B. Harkin, Commissioner.*

The Care of Children.

NOW that September has come, many a mother breathes a sigh of relief because her wee baby has passed the summer months safely. It requires a liberal amount of common sense mixed with a sufficient knowledge of baby life to weather the first two years of a child's existence. Here we have a little book which will prove very valuable to the mother in her quest for knowledge. It is one of the Harvard Health Talks series, and its 50 pages contain good advice well told. One of the most interesting paragraphs describes grandmothers. Enough said!

THE CARE AND FEEDING OF CHILDREN—By John Lovett Morse, M.D.—Cambridge—Harvard University Press—1914—Price, 50 cents.

BOOK REVIEWS.

The following books have been received, and the courtesy of the publishers in sending them is hereby acknowledged. Reviews will be made of these volumes from time to time.

A SPRIG OF MOUNTAIN HEATHER—Being a story of the heather and some facts about the mountain playgrounds of the Dominion—Published by the Department of the Interior—Ottawa, 1914—J. B. Harkin, Commissioner.

THE OLD TIMER AND OTHER POEMS: CANADIAN BORN AND OTHER WESTERN VERSE—By Robert T. Anderson, Health Inspector, Edmonton, Alberta—Published by The Estate Press, Edmonton, Alberta—2 volumes.

CANADIAN POETS

CHARLES SANGSTER

"To him belongs the honor of being the first poet who made appreciative use of Canadian subjects in his poetical work. . . . Though many defects may be found in his first volume, indicating undue haste in preparation and over-confidence on the part of the author, yet fine rhythm and spirit are often met with. . . . This volume established his position as a poet of no common power, which was freely accorded him by writers in Britain, in the United States and in Canada. The lyric to 'The Isles in the St. Lawrence' is much admired, and also 'The Rapid'. . . . The second volume is not open to the same objections. The poems are more highly finished and show greater skill and care in the poetic art. Mr. Sangster is at his best, perhaps, in his martial pieces, such as 'Brock,' 'Wolfe,' 'Song for Canada,' etc. . . . He had a passionate love for nature; but his grand theme was love—the noblest of themes."—Archibald MacMurchy.

"Charles Sangster has been called 'The National Poet of Canada,' and certainly for keen appreciation and graceful and graphic description of the natural beauties of our land, as well as for the spirit of devoted patriotism that breathes through his work, he stands easily first among our pre-Confederation poets, and holds, beyond dispute, a foremost place on the list of Canadian poets up to the present day."—Mrs. C. M. Whyte-Edgar.

CHARLES SANGSTER was born at the Navy Yard, Point Frederick, Kingston, Ontario, on the 16th of July, 1822. He was the son of a joiner in the British Navy, and the grandson of a United Empire Loyalist, a Scotch soldier who had fought in the American Revolution.

Charles was but two years old when his father died; and when he was but fifteen

years of age he retired from school to assist his mother in providing for the family.

He found work, first, in the naval laboratory at Fort Henry; and, second, in a subordinate position in the Ordnance Office. Kingston, which he held for several years.

It was during this period that he began to contribute both prose and verse to the public journals. In 1849 he was appointed editor of the "Courier" in Amherstburg, and went there to reside; but, the following year resigned and returned to Kingston, where he joined the staff of the "Whig." Subsequently, in 1864, the "Daily News" of the same city engaged his services.

It was during his journalistic career in the Limestone City that he accomplished his best literary work. His first volume, "The St. Lawrence and the Saguenay, and other Poems," appeared in 1856, published by subscription; and his second, "Hesperus, and other Poems and Lyrics," in 1860.

When forty-six years of age he accepted a position in the Post-Office Department at Ottawa, where his poetic energy and ambition succumbed, apparently, to the incessant drudgery and to the hampering cares of ill-paid employment.

Sangster was a poet born, but his literary genius was handicapped by his elementary education and limited reading. For his opportunities, he achieved notably. He died in 1893.

LYRICS TO THE ISLES

Here the spirit of Beauty keepeth
  Jubilee for evermore;
Here the voice of Gladness leapeth,
  Echoing from shore to shore.
O'er the hidden watery valley,
  O'er each buried wood and glade,
Dances our delighted galley,
  Through the sunlight and the shade;
    Dances o'er the granite cells,
    Where the soul of Beauty dwells;

Here the flowers are ever springing,
  While the summer breezes blow;
Here the Hours are ever clinging,
  Loitering before they go;
Playing round each beauteous islet,
  Loath to leave the sunny shore,
Where, upon her couch of violet,
  Beauty sits for evermore;
    Sits and smiles by day and night,
    Hand in hand with pure Delight.

Here the Spirit of Beauty dwelleth
  In each palpitating tree,
In each amber wave that welleth
  From its home beneath the sea;
In the moss upon the granite
  In each calm, secluded bay,
With the zephyr trains that fan it
  With their sweet breaths all the day—
    On the waters, on the shore,
    Beauty dwelleth evermore!

THE RAPID

All peacefully gliding,
  The waters dividing,
The indolent batteau moved slowly along,
  The rowers, light-hearted,
  From sorrow long parted,
Beguiled the dull moments with laughter
    and song;
'Hurrah for the rapid that merrily,
    merrily
  Gambols and leaps on its tortuous way;
Soon we will enter it, cheerily, cheerily,
  Pleased with its freshness, and wet with
    its spray.'

More swiftly careering,
  The wild rapid nearing,
They dash down the stream like a terrified
    steed;
  The surges delight them,
  No terrors affright them,
Their voices keep pace with the quickening
    speed;
'Hurrah for the rapid! that merrily,
    merrily
  Shivers its arrows against us in play;
Now we have entered it, cheerily, cheerily,
  Our spirits as light as its feathery
    spray.'

Fast downward they're dashing,
Each fearless eye flashing,
Though danger awaits them on every side;
Yon rock—see it frowning!
They strike—they are drowning!
But downward they speed with the merciless tide;
No voice cheers the rapid, that angrily, angrily
Shivers their bark in its maddening play;
Gaily they entered it—heedlessly, recklessly,
Mingling their lives with its treacherous spray!

BROCK

One voice, one people, one in heart,
And soul, and feeling, and desire.
Re-light the smouldering martial fire,
And sound the mute trumpet! Strike the lyre!
The hero dead cannot expire;
The dead still play their part.

Raise high the monumental stone!
A nation's fealty is theirs;
And we are the rejoicing heirs,
The honored sons of sires, whose cares
We take upon us unawares
As freely as our own.

We boast not of the victory,
But render homage, deep and just,
To his—to their—immortal dust,
Who proved so worthy of their trust;
No lofty pile nor sculptured bust
Can herald their degree.

No tongue can blazon forth their fame—
The cheers that stir the sacred hill
Are but mere promptings of the will
That conquered them, that conquers still;
And generations yet shall thrill
At Brock's remembered name.

Some souls are the Hesperides
Heaven sends to guard the golden age,
Illumining the historic page
With record of their pilgrimage;
True martyr, hero, poet, sage;—
And he was one of these.

Each in his lofty sphere, sublime,
Sits crowned above the common throng;
Wrestling with some pythonic wrong
In prayer, in thunders, thought or song,
Briareus-limbed, they sweep along,
The Typhons of the time.

SONG FOR CANADA

Sons of the race whose sires
Aroused the martial flame
That filled with smiles
The triune Isles,
Through all their heights of fame!
With hearts as brave as theirs,
With hopes as strong and high,
We'll ne'er disgrace
The honored race
Whose deeds can never die.
Let but the rash intruder dare
To touch our darling strand,
The martial fires
That thrilled our sires
Would flame throughout the land.

Our lakes are deep and wide,
Our fields and forests broad;
With cheerful air
We'll speed the share,
And break the fruitful sod;
Till blest with rural peace,
Proud of our rustic toil,
On hill and plain
True kings we'll reign,
The victors of the soil.
But let the rash intruder dare
To touch our darling strand,
The martial fires
That thrilled our sires
Would light him from the land.

Health smiles with rosy face
Amid our sunny dales,
And torrents strong
Fling hymn and song
Through all the mossy vales;
Our sons are living men,
Our daughters fond and fair;
A thousand isles
Where Plenty smiles,
Make glad the brow of Care.
But let the rash intruder dare

To touch our darling strand,
The martial fires
That thrilled our sires
Would flame throughout the land.

And if in future years
One wretch should turn and fly,
Let weeping Fame
Blot out his name
From Freedom's hallowed sky;
Or should our sons e'er prove
A coward, traitor race,—
Just Heaven! frown
In thunder down
T' avenge the foul disgrace!
But let the rash intruder dare
To touch our darling strand,
The martial fires
That thrilled our sires
Would light him from the land.

THE SOLDIERS OF THE PLOUGH

No maiden dream, nor fancy theme,
Brown Labor's muse would sing;
Her stately mien and russet sheen
Demand a stronger wing.
Long ages since, the sage, the prince,
The man of lordly brow,
All honor gave that army brave,
The Soldiers of the Plough!
Kind Heaven speed the plough!
And bless the hands that guide it;
God gives the seed—
The bread we need,
Man's labor must provide it.

In every land, the toiling hand
Is blest as it deserves;
Not so the race who, in disgrace,
From honest labor swerves.
From fairest bowers bring rarest flowers
To deck the swarthy brow
Of him whose toil improves the soil—
The Soldier of the Plough.
Kind Heaven speed the plough!
And bless the hands that guide it;
God gives the seed—
The bread we need,
Man's labor must provide it.

Blest is his lot, in hall or cot,
Who lives as Nature wills,
Who pours his corn from Ceres' horn,
And quaffs his native rills!
No breeze that sweeps trade's stormy deeps
Can touch his golden prow;
Their foes are few, their lives are true,
The Soldiers of the Plough.
Kind Heaven speed the plough!
And bless the hands that guide it;
God gives the seed—
The bread we need,
Man's labor must provide it.

SONNET

I sat within the temple of her heart,
And watched the living Soul as it passed through,
Arrayed in pearly vestments, white and pure.
The calm, immortal presence made me start.
It searched through all the chambers of her mind
With one mild glance of love, and smiled to view
The fastnesses of feeling, strong, secure,
And safe from all surprise. It sits enshrined
And offers incense in her heart, as on
An altar sacred unto God. The dawn
Of an imperishable love passed through
The lattice of my senses, and I, too,
Did offer incense in that solemn place—
A woman's heart made pure and sanctified by grace.

THE WINE OF SONG

Within Fancy's halls I sit and quaff
Rich draughts of the wine of Song;
And I drink, and drink,
To the very brink
Of delirium wild and strong,
Till I lose all sense of the outer world,
And see not the human throng.

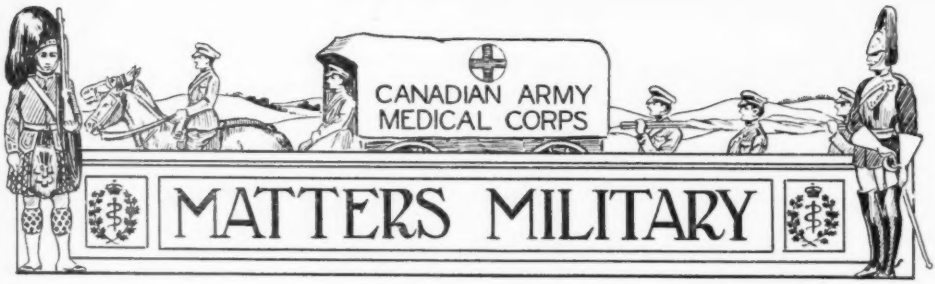
The lyral chords of each rising thought
Are swept by a hand unseen;
And I glide, and glide,
With my music bride,
Where few spiritless souls have been;
And I soar afar on wings of sound,
With my fair Æolian queen.

Deep, deeper still, from the springs of Thought
I quaff till the fount is dry;
And I climb, and climb,
To a height sublime,
Up the stars of some lyric sky
Where I seem to rise upon airs that melt
Into song as they pass by.

Millennial rounds of bliss I live,
Withdrawn from my cumb'rous clay,
As I sweep, and sweep,
Through infinite deep,
On deep of that starry spray;
Myself a sound on its world-wide round,
A tone on its spheral way.

And whereso'er through the wondrous space
My soul wings its noiseless flight,
On their astral rounds
Float divinest sounds,
Unseen, save by spirit-sight,
Obeying some wise, eternal law,
As fixed as the law of light.

But, oh, when my cup of dainty bliss
Is drained of the wine of Song,
How I fall, and fall,
At the sober call
Of the body, that waiteth long
To hurry me back to its cares terrene,
And earth's spiritless human throng!



MATTERS MILITARY

THE MEDICAL PROFESSION OF ALBERTA AND THE DEFENCE OF THE COUNTRY

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Read before the Annual Meeting of the Alberta Medical Association at Medicine Hat, July, 1914.

LET us suppose that an enemy holding the naval supremacy of the Pacific seizes Vancouver Island and lands on the coast. What would happen? Alberta would become a frontier province with the mountains for a rampart; and the militia of the district would be mobilized in one or more convenient areas of concentration. But even before the troops would begin to pour westwards over the mountain passes, the toll that sickness, minor casualties and accidental injuries exact on every army would begin to show its effects in the usual proportion of non-effectives left behind under medical charge. Again, on arrival at the front and before a shot had been heard a similar crop would be ready for shipment back: for sick men are an encumbrance and handicap to any army, and must not be kept at the front. Then the day of battle arrives and the firing line reaps its harvest and pays its penalty. The wounded lie where they fall. There is no help for them save that which can be afforded by those with them—their comrades, the medical officers of their regiments and the regimental stretcher bearers or first aid men placed at their disposal. Later on in the battle as the area of conflict shifts the regiments move on and the wounded are left behind with only such temporary aid and hasty relief accorded as time and circumstances may allow. The field medical unit—the field ambulance or cavalry field ambulance—now enters upon the scene and proceeds to collect, relieve, dress, and temporarily shelter these casualties until they can be handed over to others for transportation back to the railroads, and back through the mountains;—train loads of wounded to Calgary and other distributing points. The Field Ambulance cannot do this transportation work. It must hurry on after the firing line, collecting, relieving, feeding, placing in temporary shelters, and ever again hurrying on, keeping pace with the troops in front. Another organization must take up this duty of transportation, and care for the wounded until it is effected. This is the work of the clearing hospital organization, and there is no such unit in Alberta. Again, when at last the wounded arrive at the railways, cars have to be fitted up for their reception, and a personnel provided either from a clearing hospital or elsewhere to nurse and care for them during their long trip through the mountains and across the prairie. As the ambulance train rolls along on its slow course homewards opportunities occur as the train stops at various railway stations for an organized local personnel to

provide hot food, fresh clothing and other comforts for the wounded, as well as a few hospital beds in readiness for patients too ill to journey any farther. These rest stations are most important, not only along the line of rail travel but at the various points of destination where ambulance trains may have to wait for hours before the unloading of the wounded and their allotment to hospitals—stationary hospitals—may be effected. These stationary hospitals would have to be improvised at convenient centres in the province, suitable buildings such as schools and factories being requisitioned. In this connection it is doubtful whether the civilian hospitals of the province would even be partially available owing to the fact that the accommodaton needed in them after the civilian demands had been supplied would be far too small for the purpose. Only their operating rooms, x-ray apparatus, etc., could be counted upon for continued service. The personnel to take charge of these stationary hospitals would also have to be organized, as at present there are none. But the story is not yet complete. The sick and disabled have arrived at a stationary hospital—possibly at Calgary. They have reached the zone of distribution. They must here be permanently treated and cared for until distributed to the best advantage. Some may never recover so as to be effective fighting men again, or may require such time to do so as to render such an eventuality tedious or even problematical. These must be shipped farther away from the line of activities, as soon as their condition permits. Congestion must be avoided, and the burden evenly distributed throughout the zone. So from this point of distribution new trainloads of non-effectives leave for suitable points at which other stationary and auxilliary hospitals, and even large general hospitals may be located. A general hospital for instance might well be located at Medicine Hat, at the junction of the two lines of evacuation leading back through Calgary and Lethbridge. Again, around Calgary, Lethbridge, Edmonton, Medicine Hat and any other points of distribution, auxilliary hospitals would be organized at suitable places such as at Red Deer, McLeod, Maple Creek, etc., within easy reach by rail or road. Along these railways and roads other rest stations would be required. In this way those disabled for long periods of time would be distributed over the province, leaving clear for further eventualities the medical resources in immediate touch with the area of active operations. Again we have the disabled who after the final operation or work of repair has been completed require little or no further medical care, but only rest until once more efficient. For these non-effectives convalescent depots must be improvised at which, under medical supervision, they await their early return to duty. Such depots could be established in connection with the general hospital at Medicine Hat, and also at Banff, and elsewhere. All these and other medical formations must be improvised on the outbreak of hostilities, as only those organizations which would be immediately required to accompany the fighting troops into the field, on the call to arms,—namely, the regimental medical personnels and the field medical units.—are organized and trained during times of peace. Even these units are only trained on a limited establishment and would have to be increased to more than double their peace strength on mobilization. The country cannot afford to do more.

Now how is it proposed to improvise these other and equally essential organizations? We depend upon the medical profession and the local medical resources of civil life for this work. The officers will be supplied from among the practitioners; the nursing sisters from among the trained nurses; and the rank and file—the subordinate staff, both men and women—from among those who have received instruction in first aid, home nursing and invalid cooking at such classes as are held by the members of our profession under the auspices of the St. John Ambulance and similar associations. In order to properly prepare the medical profession for this national duty—their share in the defence of

their country—every endeavour is made to encourage the licensed practitioners of Canada who are British subjects, physically fit, and under the age limit to become medical officers of the Militia. Those so eligible may apply for and receive a commission in the Army Medical Corps. Once upon the regimental list of this corps they receive instruction in the duties of a medical officer, and are taught the role, sphere of action and organization of the various military medical formations above enumerated. In this way it is hoped that in due time every medical man in Canada, with but few unavoidable exceptions, will be a trained medical officer, ready when the time comes,—if not already detailed to a field medical unit—to improvise, staff and equip these other medical organizations from clearing hospitals to convalescent depots. Similarly with the large number of nursing sisters of the country, and to this end every trained nurse who is a British subject, and otherwise properly qualified is eligible for appointment to the regimental list of the Militia Nursing Sisters. Then for the rank and file,—the subordinate personnel. How are we going to supply the large number of trained people required to complete the existing field medical units up to war strength, and staff the many medical formations required? This is a very important question. All Canadians between the ages of 18 and 60 are liable for service on mobilization in varying degrees; and for this purpose they are divided into four classes. Those in the first class would be the first called out first and those in the fourth last. The rank and file required for the medical organizations would be selected from among those mobilized militiamen who have not already received a militia training during peace time in other branches of the service, and who hold certificates from civil sources in first aid, hospital duties, home nursing or invalid cooking. In this connection it can readily be understood that the teaching work of such organizations as the St. John Ambulance Association is of great importance, and from the patriotic standpoint of national defence alone it should receive our every support. The more such classes are held the greater will be the supply of trained citizens available for our needs on mobilization. But a difficulty still exists. What about those citizens, so trained, who belong to classes not called out, or who are women not on the regimental list of trained nurses? These certificated people are scattered all over the country, but once trained, soon pass out of touch of the civilian bodies by whom they were taught. In the hour of national emergency the services of these people would largely be lost unless some scheme were adopted to keep track of them, and to utilize their voluntary service. To overcome this difficulty, a Voluntary Aid Committee is being appointed in each military division and district, whose duty it is to organize these trained individuals into Voluntary Aid Detachments—both men and women detachments—which will be duly registered, numbered and annually inspected by the militia medical authorities. These detachments will be available on the outbreak of hostilities for duty in their home localities if situated in the zone of distribution, to organize auxilliary hospitals, rest stations, etc.; or when supported from private resources, such as by the Canadian Red Cross Society, to staff other medical organizations as, for instance, ambulance trains and hospitals away from home. For further information as to the formation, training and registration of these detachments, I would like to refer you to the pamphlet on this subject issued by the Militia Department and entitled, "The Organization of Voluntary Medical Aid in Canada."

In conclusion, this is but a brief outline of the method by which it is proposed, on the outbreak of a war of national defence, to extend the present incomplete militia medical organization into a complete medical service capable of coping with all the essential details of a rapid evacuation and an efficient care and distribution of the casualties which will begin accumulating before even a shot is fired. Whether this extension may be accomplished—and if it is

to be successful, it must be accomplished readily and promptly—will depend largely upon the way in which the medical profession in civil life understands and is prepared to carry out its share. Otherwise all unorganized and individual effort—no matter how fervid and patriotic,—can only result in hopeless confusion and in the absence of any proper medical arrangements behind the fighting troops. The armies will become overburdened, clogged and weakened by the pressure of sick and wounded; and not only will much unnecessary suffering and mortality ensue, but the fate of the country may be decided—like that of the Balkan armies before the Tchataldja lines,—not by the strength of the enemy but by the weakness of its medical service. Therefore, the importance of a well organized and complete medical service in the day of national emergency cannot be overestimated; and the main factor in the provision of such a service in this country, is the efficient and active co-operation of the medical profession as a whole. It is their share in the duty of National Defence.

Before promotion to the rank of captain, lieutenants of the Army Medical Corps are required to complete one year's service in the corps in addition to qualifying under Appendix VI., Syllabus 21 (b), subject to the proviso that officers who are transferred to the Army Medical Corps from any other branch of the service and who before transfer, were duly qualified in the arm to which they belonged, will not be required to qualify under the Appendix quoted.

As this is the first time since the establishment of the Canadian Army Medical Services upon the present basis, that the units have been raised to war strength, it will be interesting to our readers to know the personnel of the Cavalry Field Ambulance, Field Ambulance and Clearing Hospital, at war time. With the first Canadian contingent several hundred loyal sons of the Dominion will serve in these units.

A Clearing Hospital (200 sick).

Detail.	Personnel.						
	Officers	Warrant Officer	Staff Sgts. and Sergeant	Buglers	Rank and file	Total	Riding Horses
Medical Officer Commanding	1					1	1
Other medical officers	6					6	6
Quartermaster	1					1	1
Sergeant-major		1				1	
Staff Sgts. and Sergeants: Nursing duties			2			2	
Steward			1			1	
Compounder			1			1	
Cook			1			1	
Packstore keeper			1			1	
Clerk			1			1	
General duties			1			1	
Bugler				1		1	
Corporals: Compounder					1	1	
Cook					1	1	
Clerk					1	1	
General duties					4	4	
Privates					60	60	
Total	8	1	8	1	67	85	8

A Field Ambulance (3 Sections, "A," "B" and "C").

Note 1.—The bearer, tent, and transport divisions each include three sub-divisions.

Note 2.—"A," "B" and "C" each include one bearer sub-division, one tent sub-division and one transport sub-division.

Note 3.—The sanitary division always remains with the headquarters of the unit.

Detail.	War Establishment.								
	Personnel.						Horses.		
	Officers	S.-Major	Staff Sgts. and Sgts.	Buglers	Rank and File	Total	Riding	Dr'ght	Total
Bearer Division.									
Medical Officers	3					129	3		3
Sergeants			3		3				
Corporals									
Buglers				3	117				
Privates									
Tent Division (150 patients).									
Medical officer commanding	1					64	1		1
Other medical officers	3						3		3
Quartermaster	1						1		1
Sergeant-major		1					1		1
Quartermaster Sergeant			1						
Staff Sgts. — Compounders			3						
Staff Sgts. — Nursing duties			3						
Sergeants — Stewards			1						
Sergeants — Clerks			2						
Sergeants — Cooks			1						
Corporals — Nursing duties					3				
Corporals — Cooks					1				
Corporals — Packstore keeper					3				
Corporals — Clerks					1				
Privates					39				
Sanitary Division.									
Medical Officers	1					6	1		1
Sergeants			1		4				
Privates									
Transport Division.									
Medical Officers	1					44	1		1
Sergeants			1				1		1
Drivers, water cart					3			6	6
" ambulance wagons					10			20	20
" country wagons (Bain)					13			24	24
" spare horses					3			6	6
" spare					3				
Batmen					10				
Grand Total	10	1	16	3	212	243	12	56	68

A Cavalry Field Ambulance (2 Sections "A" and "B").

Note 1.—The bearer, tent, and transport divisions each include two sub-divisions.

Note 2.—"A" and "B" section each include one bearer sub-division, one tent sub-division, and one transport sub-division.

Detail.	War Establishment.								
	Personnel.						Horses.		
	Officers	S.-Major	Staff Sgts. and Sgts.	Buglers	Rank and File	Total	Riding	Dr'ght	Total
Bearer Division.									
Medical officers	2						2		
Sergeants			1				1		2
Corporals					4	43	1		1
Buglers				2					1
Privates					34				
Tent Division (50 patients).									
Medical officer commanding	1						1		
Other medical officers	1						1		1
Quartermaster	1						1		1
Sergeant-major		1					1		1
Quartermaster Sergeant			1						1
Staff Sgts. — Compounder			2						
Staff Sgts. — Nursing duties			2				2		
Sergeants — Steward			1			46			2
Sergeants — Cook			1						
Sergeants — Supernumerary			1						
Sergeants — Nursing duties					2				
Corporals — Cooks					2				
Corporals — Packstore keeper					2				
Corporals — Clerks					2				
Privates					26				
Transport Division.									
Officers	1						1		1
Sergeants			2				2		2
Drivers, water carts					2			4	4
" ambulance wagons					20			40	40
" country wagons (Bain)					6	42		12	12
" spare horses					2			4	4
" spare					3				
Batmen					6				
Grand Total	6	1	11	2	111	131	13	60	73

THE THIRD ANNUAL MEETING OF ALIENISTS AND NEUROLOGISTS OF THE UNITED STATES

Held under the auspices of the Chicago Medical Society, for the purpose of discussing Mental Diseases in their various phases, July 13 to 17, 1914

THE committee on "The Causative Forces of Mental Deficiency" reported the following resolutions, which were unanimously adopted:

"We feel it unwise at this time to make any recommendations in regard to constructive legislation owing to the lack of proper valuation of available data as to causes and sources of mental deficiency."

"We do, however, recommend and urge regulation of mental deficients and the furthering of investigations as to the causes and sources."

The Committee on the Prevention of Insanity, reported the following resolutions, which were unanimously adopted:

"Whereas, it is well recognized by alienists and neurologists the world over that certain major factors are the chief causes of physical conditions accompanied by mental derangement and deficiency, and

"Whereas, these major causes are largely, if not wholly, controllable and eradicable, and

"Whereas, these major causes are alcoholism, habit producing drugs, venereal diseases, work in unsanitary and unhygienic surroundings, and hereditary influence, including the immigration of the physical and mental unfit.

"Therefore, be it resolved, First: That we recommend to the proper State authorities, the absolute control of the sale of alcohol until such time as actual prohibition be enacted.

"Second: That the sale of all habit inducing drugs be strictly regulated in all States of the Union.

"Third: That municipal or State control of venereal diseases be established, with proper treatment for indigent patients, to the end that the spread of syphilis and gonorrhœa be prevented.

"Fourth: That proper special hospitals for the care and treatment of alcoholism and drug addictions be established.

"Fifth: That municipal, state and national inspection of labor conditions be regularly maintained and child labor abolished.

"Sixth: That no known defective, dangerous to himself and others, should be permitted to have unrestricted liberty.

"Seventh: That adequate teaching of the principles of heredity and sex life be initiated and fostered in the home with the view to its introduction into the curricula of schools—above the grammar grades, this instruction to be given to the sexes separately.

"Eighth: That the various states pass reasonable and universal marriage laws, that will be reciprocal, in preventing the marriage of the physical and mental unfit.

"Ninth: That a psychopathic laboratory be connected with the criminal courts, common schools, railroads, transportation companies and public service utilities, responsible for the actual safety of the general public, should have their employees regularly examined as to their physical and mental fitness.

"Tenth: That, inasmuch as state, county and city public health institutions should have as their superintendents men of highest qualifications, who may devote their best efforts to their tasks, we recom-

mend that all such positions be subject to civil service examinations.

"Eleventh: That in addition to the above, we recommend a nation-wide campaign of education conducted through the public press, university and medical schools, boards of health, state, county and city boards of education, women's clubs and other proper educational mediums, upon the true significance of the development—physical, mental and moral—of the individuals and the race, and, finally, we recommend that a committee be appointed to promote the enactment of the above resolutions."

The Committee on "Alcoholism as a Causative Factor of Insanity" reported the following resolutions, which were unanimously adopted:

"Whereas, in the opinion of the meeting of Alienists and Neurologists of the United States, in convention assembled, it has been definitely established that alcohol when taken into the system acts as a definite poison to the brain and other tissues; and

"Whereas, the effects of this poison are directly or indirectly responsible for a large proportion of the insane, epilepties, feeble-minded and other forms of mental, moral and physical degeneracy; and

"Whereas, the laws of many states make alcohol freely available for drinking purposes; and therefore cater to the physical, mental and moral degradation of the people; and

"Whereas, many hospitals for the insane and other public institutions are now compelled to admit and care for a multitude of inebriates; and

"Whereas, many states have already established separate colonies for the treatment and re-education of such inebriates, with great benefit to the individuals and to the commonwealths.

"Therefore, be is resolved that we, unqualifiedly, condemn the use of alcoholic beverages and recommend that the various State Legislatures take steps to eliminate such use; and be it further

"Resolved, that we recommend the general establishment by all states and territories of special colonies or hospitals for the care of inebriates; and

"Resolved, that organized medicine should initiate and carry on a systematic, persistent propaganda for the education of the public regarding the deleterious effects of alcohol; and

"Be it further resolved, that the medical profession should take the lead in securing adequate legislation to the ends herein specified."

The Committee on "Syphilis as a Causative Factor of Insanity," reported the following resolutions, which were unanimously adopted:

"Whereas, syphilis is responsible for a large percentage of all insanity and mental deficiency.

"Be it resolved that:

"First: Health departments (municipal and state) should be equipped to make laboratory examinations for venereal diseases.

"Second: All hospitals for the insane should be equipped to make laboratory examinations for venereal diseases.

"Third: Hospitals and dispensaries for the treatment of venereal diseases should be provided.

"Fourth: Physicians should be compelled by law to report cases of venereal diseases, as is now done in other contagious diseases.

"Fifth: Applicants for marriage should be required to furnish health certificates.

Sixth: Lectures and bulletins should be offered freely to the public regarding venereal diseases.

"Seventh: Newspapers should be requested to use their best influence to educate the people concerning venereal diseases.

"Eighth: Sex hygiene should be taught in the public schools, above grammar grades, to the sexes separately."

THE Senate and the House of Representatives of the United States of America have authorized the President of the United States to invite foreign Governments to appoint delegates and otherwise participate in the Fourth International Congress on Home Education to be held at Philadelphia, Pennsylvania, September 22-29, 1914, under the auspices of the International Commission on Home Education and Parent-Teacher Unions.

Veterinary Hygiene

THE SLAUGHTER HOUSE

SINCE time immemorial meat has constituted one of the principal diets of man. Its wholesomeness and hygienic preparation has always been a serious problem to the authorities. We are told that Alexander the Great forbade the Lipanese the eating of flesh because of the evils attending the consumption of spoiled fish. By the Ausburg Charter of 1276 a public slaughter house was prescribed, also compulsory inspection and declaration of diseased animals, which shows a hygienic point of view not observed at the present time throughout America.

In Canada at the present time food animals are slaughtered by three classes of butchers:

(Class I.) The large packer, usually located in or near the cities, as they are live stock centres. His plant, although not perfect, must meet the requirements of the authorities in regard to sanitation, construction and inspection facilities. Animals slaughtered at this plant are subjected to ante-mortem and post-mortem inspection by qualified veterinary inspectors. Carcasses passed for food are stamped as such, while those condemned and portions of others found diseased are destroyed as required by law. The operation of all the various departments from the pickling room up to the oleo plant, are under the supervision of the inspectors.

(Classes II. and III.) The small butchers and the farmers. Scattered throughout the cities, towns and rural districts are to be found the slaughter houses of these two latter classes.

In the cities and towns these establishments are quite common, even in the residential districts, while in the smaller towns and country they are nearly always isolated. The prime factors, in the estimation of these small butchers, are water supply and disposal of offal, hence these different sites for slaughterhouses.

The country butcher not having the sewerage and water facilities of his city brother, tries to overcome these disadvantages by selecting a site on the bank of a stream remote from highways and habitations.

These buildings are nearly all constructed of wood. A great many are in a dilapidated condition, with openings in the roof, walls and floor, through which flies, rats, dogs and cats may gain entrance to the meat. Frequently but a thin partition separates the killing-floor from the stable. Screens for doors and windows are absent. Flies in millions swarm about and light on meat and offal alike. Filthy pails, barrels and clothing are scattered about over the floor. The beef-cloths are seldom or never washed and boiled, as a result they are greasy, filthy and foul.

In the city the offal is given away, while in the country it may be thrown into the stream, into the yard, where it is left to decompose, or is fed to hogs. Near the chilling meat the green hide is spread on the floor and salted. These hides are often allowed to accumulate in this manner, and their odors to permeate the meat. A considerable amount of the blood and water from the killing floor runs through the cracks and mixes with the earth beneath; in this mud the hogs, kept to feed on the offal, are allowed to wallow. Maggots frequently exist in such numbers as to cause a visible movement of the mud. In the shelter of a "lean-to" is a large iron kettle with a fire-place beneath. This kettle is used for scalding hogs, boiling scrap for soap-grease, and last, but not least, the manufacture of kettle-rendered lard.

Such slaughter houses, in addition to being malodorous, unclean and unsanitary

in the extreme, are actually centres for spreading disease. Where hogs are slaughtered, it is more than probable that a hog infected with trichinae will be killed. The offal of such a hog when eaten by rats will infect them, and these rats, if later killed and eaten by hogs, will again communicate the disease. Rats act as direct transmitters of trichinosis to hogs. Various tapeworms and other animal parasites are disseminated by the feeding of offal, also such diseases as hog cholera and tuberculosis are spread in this manner.

Having endeavored to describe and point out some of the deplorable conditions existing in a vast majority of our slaughter houses, allow me now to draw your attention to the most important point of all, namely—the lack of ante-mortem and post-mortem inspection of the animals slaughtered by a qualified veterinary inspector.

I will not discuss the merits of veterinary inspection, as I take it for granted that the readers of this article are familiar with and acknowledge the importance of this branch of science.

Aside from the benefits to public health the municipal abattoir is justified alone from the standpoint of conservation. The value of the beef from the average steer, broadly speaking, is about three-fourths of the total value of the products obtained from the animal. Any industry which can pay its operating expenses almost entirely out of by-products formerly wasted, reduces the cost of production, that, unless checked by other trade influences or control, should be finally shared in by the ultimate purchaser. Not only do adequate tankage facilities save the creeks and other streams from pollution, but it also saves a valuable source of fertilizing material from waste.

One plant, killing a few animals, cannot afford the overhead investment and running expense of modern refrigeration and adequate tankage facilities. A group of butchers can install such equipment, at a great saving to each individual, and thus we should be able to yoke together the necessity for trade economy and co-operation with the necessity for centralized veterinary inspection.

One outstanding point is the fact that the wasteful and costly methods on the part of the local butcher, such as the giving away of offal, the purchase and hauling of ice, lower prices for carelessly handled hides and tallow, from small plants and through several middle-men, maintenance of plants and labor, for a few animals, capable of greatly increased slaughterings, afford little or no element of economic competition from the unorganized, uninspected local meat supplies, and these economic errors have a substantial and direct influence in fixing the high meat prices.

The obvious remedy is to bring all these men into one model and daily inspected abattoir, to be owned by the municipality and maintained by fees, or to be owned by the butchers themselves under veterinary inspection, and open to the public at a fixed fee.

Such a concentration of capital and effort would not only save the heavy losses from waste offal and eliminate the nuisances to the various communities in which the slaughter houses are located, but would make it possible to slaughter animals at much less cost than it requires in the scattered and ill-equipped plants.

In criticizing and drawing attention to some of these deplorable conditions, I hope to assist in arousing public sentiment, which would be the prime factor towards the elimination of the unsanitary slaughter house and uninspected meat and meat-food products.

The Sanitary Inspectors' Association of Western Canada

President—E. W. J. Hague, Assoc. Roy. San. Inst. Vice-Presidents—Western Ontario, W. E. Stanley, Assoc. Roy. San. Inst., Manitoba, W. F Thornley, Assoc. Roy. San. Inst.; Saskatchewan, Thos. Watson, Assoc. Roy. San. Ins.; Alberta, J. J. Dunn, Assoc. Roy. San. Ins.; British Columbia, F. L. Glover, Assoc. Roy. San. Ins. Executive Committee—W. J. T. Watt; Cert. Inc. San. Assoc., Scotland; P. B. Tustin, Assoc. Roy. San. Inst.; D. Little, Winnipeg; E. C. Brown, Winnipeg, Secretary-Treasurer—Alex. Officer, Cert. Inc. San. Assoc., Scotland.

SECOND ANNUAL REPORT

1914

THE Second Annual Meeting of the Association was held at Winnipeg, Manitoba, on Wednesday, Thursday and Friday, 15th, 16th and 17th of July, 1914.

On Wednesday morning, in the Council Chamber of the City Hall, a civic welcome was accorded by Mayor T. R. Deacon and Dr. Munroe, Chairman of the Health Committee. Following this a Presidential address was given by Mr. E. W. J. Hague, President of the Association. The afternoon was spent at the Canadian Industrial Exhibition.

On Thursday visits of inspection were made to the following places: Crescent Creamery Company's ice cream and milk plants; the food departments of the T. Eaton Company's store; ventilating systems of the Manitoba Free Press Building and the Walker Theatre. In the evening a visit was paid to an up-to-date bakery owned by Alderman Milton.

On Friday morning visiting members were shown round the various divisions of the Health Department.. The afternoon was spent in viewing Health films owned by the Winnipeg Health Department at the Rex Theatre, and a visit of inspection to the sewage purification plant of the Anglo-Continental Fertilizer Syndicate, Ltd. The annual business meeting of the Association was held in the Council Chamber, City Hall, in the evening.

On Saturday a visit of inspection was paid to Kinalmeaky Farm, a dairy of most modern construction and system of operation.

Annual Business Meeting.

At Winnipeg, Man., in the Council Chamber, on Friday, 17th July, 1914, met the Sanitary Inspectors' Association of Western Canada.

Sedurant: Mr. E. W. J. Hague, Winnipeg, Man., President of the Association; Mr. Thomas Watson, Regina, Sask., Vice-President for Saskatchewan; Mr. W. E. Stanley, Fort William, Ont., Vice-President for Western Ontario; Mr. P. B. Tustin, Winnipeg, Man., Vice-President for Manitoba; Mr. E. C. Davies, Medicine Hat, Alta.; Mr. A. G. Warr, Prince Albert, Sask.; Mr. A. McF. S. Allan, Weyburn, Sask.; Mr. J. H. Jones, Assiniboia, Man.; Mr. V. Slater, Regina, Sask.; Mr. P. McElmoyle, Regina, Sask.; Mr. J. Martin, Regina, Sask.; Messrs. F. C. Austin, C. S. Douglass, A. Rigby, E. C. Brown, B. C. Brough, R. McQuillan, H. S. Sturgess, W. J. T. Watt, W. H. Rason, A. F. Cummings, C. J. Booth, J. Miller, D. D. Milne, D. Little, A. W. Foote, M. Mains, E. Saville, D. Braszchuk, W. F. Thornley and A. Officer, Secretary-Treasurer, all of Winnipeg, Man.

The chair was taken by Mr. E. W. J. Hague, President. The circular calling the annual meeting was held as read:

Apologies for absence were read from Mr. H. D. Mathias, Regina, Sask., and Mr. E. G. Southon, Swift Current, Sask. The minutes of the last annual meeting, held at Regina, Sask., were read, unanimously approved, and signed by the Chairman.

The following report and transactions by the Executive Committee was read by the Secretary-Treasurer and adopted unanimously.

We have much pleasure in submitting herewith report and transactions of the Executive Committee since the last annual

meeting, held at Regina, Sask., September 19, 1913:

As required by constitution the committee has met once each month.

Immediately after the last annual meeting we took into consideration ways and means of communicating to our members from time to time information as to the work of the Association. The Secretary-Treasurer was accordingly instructed to correspond with the editors of several magazines with a view to ascertaining whether a portion of one of the publications could be allocated to our use. We were fortunate in making arrangements with the manager of the Public Health Journal, whereby a copy is mailed to each of our members monthly for the sum of one dollar per member per year. We believe this to be a good investment, as we are thus enabled to keep in touch with all our members; we shall also be able to print any paper of special interest, together with news of the work of the Association. Our connection with the Journal commenced with the March issue, in which we printed a full report of the last annual meeting. As some of our members are also members of the Canadian Public Health Association, and were therefore receiving the Journal through that body, we decided that "whereas some of the members of this Association are also members of the Canadian Public Health Association, and whereas this Association has agreed to send to the Public Health Journal the sum of one dollar for each member in consideration of the Journal being sent to such members, that the Secretary-Treasurer be authorized to accept the sum of one dollar from members who are also members of the Canadian Public Health Association for annual subscription, but in all cases he send to such members a receipt for two dollars annual subscription, and make a cross entry in his books of one dollar against such members for cost of the Journal."

The constitution and by-laws adopted at the last annual meeting have since been printed and circulated.

The following reports from the Vice-Presidents, as required by section 10, clause 9 of the constitution, are appended hereto.

At the last annual meeting we roported the following membership as at August 31, 1913:

Western Ontario—No members, no associate members; a total of none.

Manitoba—17 members, 15 associate members; a total of 32.

Saskatchewan—11 members, 6 associate members; a total of 17.

Alberta—4 members, no associate members; a total of 4.

British Columbia—1 member, no associate members; a total of 1.

A grand total of 33 members and 31 associate members.

We have pleasure in reporting the following membership as at June 30, 1914:

Western Ontario—1 member, 1 associate member; a total of 2.

Manitoba—28 members, 19 associate members; a total of 47.

Saskatchewan—13 members, 11 associate members; a total of 24.

Alberta—3 members, 7 associate members; a total of 10.

British Columbia—1 member, no associate members; a total of 1.

A grand total of 46 members and 38 associate members.

It will be seen that the Association is making good progress. We trust that this will continue and that each member will do his part towards this end.

Towards the end of last year we learned that the City of North Battleford, Sask., was likely to appoint a Sanitary Inspector. The Secretary-Treasurer was instructed to write to the Medical Health Officer of the city and also to Dr. M. M. Seymour, Provincial Health Commissioner, regarding the proposed appointment with a view to having a qualified man appointed to the position. Dr. Seymour wrote in reply that the matter was one in which he was deeply interested, as it was impossible to get the best results without properly trained men. We are pleased to be able to report that as a result of Dr. Seymour's influence one of our own members, a fully qualified man, was appointed to the position.

We have pleasure in reporting that with regard to the appointment of sanitary and other inspectors on the Health Department of the City of Winnipeg, Man., referred to at the last annual meeting, a by-law has since been passed whereby, in all future

appointments, only persons specially qualified for such work may be appointed.

As will be seen from the report of the Vice-President for Manitoba, an examination board of the Royal Sanitary Institute has been established in Manitoba. Three of our associate members have already taken advantage of this and have obtained their certificates and been admitted to full membership. We trust that many more of our associate members will take advantage of the examinations and be successful in obtaining their certificates.

We submit herewith a balance sheet, duly audited, from which it will be seen that at June 30th we had a balance of cash in the bank amounting to one hundred and forty-seven dollars and twenty-one cents ($147.27).

It is with regret that we have to record the death of our Vice-Patron, Lord Strathcona, and you will be asked to make recommendations as to his successor.

Fort William, Ont., June 21, 1914.
From Walter E. Stanley,
Vice-Pres. for Western Ontario:

I beg to report that during the year I have had several informal meetings of our members and prospective members.

I have succeeded in obtaining another member in the person of my assistant, and hope to obtain another in the person of our Health Nurse shortly.

As there are only nine members of the Health Department, including Medical Officers of Health in the two cities, you will see that our energies are somewhat restricted.

I have been busy as local convenor of the Sanitary Inspectors' Section of the Canadian Public Health Association, and I am hoping to see as many members of our Association here in September as can get away.

Winnipeg, Man., June 15, 1914.
From P. B. Tustin,
Vice-Pres. for Manitoba:

I beg to submit the following report of the transactions of the Manitoba branch since the last annual meeting held on September 19th, 1913:

We reported at that meeting 17 members and 15 associate members, a total of 32. We now have 26 members and 21 associate members, a total of 47, an increase of nine members and six associate members over last year.

The weekly meeting of Sanitary Inspectors of the Health Department of the City of Winnipeg has been continued with much success, the meetings being well attended. We feel sure that much benefit has been derived both by members and associate members. Papers on various subjects have been read on alternative Saturdays, the other Saturdays being used in general discussion. The meetings have ceased during the months of June, July and August.

For the benefit of the members of the department a library has been started, containing valuable works on sanitation in all its branches and current magazines dealing with sanitary matters. Inspector Brough acts as librarian, and he reports that a large number of the books have been loaned.

Since the last annual meeting, the Royal Sanitary Institute has established a branch in Manitoba, of which I am the honorary secretary. At an examination held last October one of our associate members obtained his certificate, and has since been added to full membership. An examination was held in April of this year, when four of our associate members presented themselves for certificates for Inspector of Nuisances, and one for the certificate in Sanitary Science as applied to buildings and public works. The results have not yet been issued.

At the recent meeting of the branch for Manitoba, Mr. W. F. Thornley was nominated Vice-President for Manitoba, and Mr. R. McQuillan Branch Secretary, for the coming year.

I wish to express my thanks to all members and associates for their kind support and co-operation during my term of office.

Regina, Sask., June 16, 1914.
From Thos. Watson,
Vice-President for Saskatchewan:

In compliance with section 10, clause 9 of the constitution, I beg to submit the following report of the transactions of this branch.

At the close of the first annual meeting at Regina in September of last year, the members of the branch met and arranged that at three centres, viz., Regina, Moose Jaw and Saskatoon, meetings be held dur-

ing the winter months, the object being to assist the associates by taking up subjects in the syllabus of examination, and giving papers or lessons on subjects of practical interest. A chairman was appointed for each centre.

Meetings were held fortnightly till end of March, the attendance showing that the meetings were both interesting and helpful. Two meetings of the branch were held, one in Regina on January 17th, which was attended by nineteen. Papers by Messrs. Buck, Saskatoon; Thomas, Moose Jaw, and Martin, Regina, were read, which led to a lively and profitable discussion. This meeting convened at 7 p.m. on a Saturday night and was closed on the advent of Sunday.

The other meeting was held at Moose Jaw on Easter Monday, the attendance being twenty-one. Interesting papers were read, one by Mr. Southon, Swift Current, on Abattoirs, and one on Milk Production and Handling, by Mr. Bulmer, Regina. In addition to papers the Moose Jaw inspectors had arranged for a visit to the Gordon Ironsides & Fare's Abattoir and Packing plant; the Robin Hood Flour Mills, and the City Sewage Disposal works. This proved a most enjoyable meeting and did much to foster the fraternal spirit.

At this meeting a resolution dealing with the duties peculiarly belonging to sanitary inspectors as responsible officials, and asking that their dismissal for any cause be subject to approval of the Provincial health authorities, was considered. It was decided to bring the whole matter before the Association at the annual meeting in Winnipeg in July.

The members of this branch have all given expression to the benefit accruing from association, and are enthusiastic in maintaining co-operative union, which is sure to result in raising the profession to the degree of importance it deserves among municipal authorities.

If I might be allowed to give my personal estimation of the benefits to be derived from association, I can say that I no longer feel I am playing a lone game, but can freely call upon my brother members for their experience, advice and assistance, in the knowledge that such assistance will be gladly supplied. Consulting with members of Saskatchewan branch, I have profited to a great extent by their suggestions in drafting regulations, etc.

Calgary, Alta., June 9, 1914.

From J. J. Dunn,
Vice-President for Alberta:

It is with great pleasure that I herewith submit report on the work carried out during the past year in Alberta by the members of the Association.

After my return from the last annual meeting of the Association, held a Regina, I interviewed the members of my staff and explained to them the objects of the Association, at the same time urging them to use their spare time to good purpose by studying sanitation in all its branches with a view to obtaining the certificate of the Royal Sanitary Institute, England.

The result of this is that most of the inspectors under me applied to you for associate membership and were accepted.

Although most of the men are studying hard there is one serious handicap in the way of qualifying, that is, the fact that Winnipeg is the nearest place where examinations are being held.

This latter fact was the means of retarding my progress to a considerable extent, but I am pleased to state that this barrier is very likely to be removed at an early date.

The Secretary of the Royal Sanitary Institute, England, has been in communication with Dr. Mahood with regard to holding an examination in Calgary. I am pleased to say that Dr. Mahood is in sympathy with the Association, and is of the opinion that all inspectors should have a certificate from some examining body, proving their ability.

Should the plan of the above mentioned gentlemen mature, I will immediately get in communication with the different men holding positions under Health authorities in other parts of the Province, with a view to having as many enter for the examination as possible.

I sincerely hope that an examination will be held in Calgary this year, as it would be out of the question for some of the members of my staff to travel to Winnipeg to sit if they had to meet their own expenses.

I am sorry to state that I have not endeavored to interest the sanitary inspectors in other cities of this Province until lately

on account of the above mentioned difficulties, but whatever success I meet with will be reported at the next annual meeting should I be present.

At the present time I am not in a position to say whether or not I shall attend the annual meeting at Winnipeg, but will endeavor to the utmost to do so.

This report is not as enthusiastic as you would perhaps like to see it, but I think I have explained the difficulties under which we are working and have expressed the opinion that they will most likely be removed some time this year.

Kamloops, B.C., June 10, 1914.

From F. L. Glover:

I must apologize for having such a poor report to make at the annual meeting, but a number of the inspectors evidently befifty dollars ($50.00) for his services to date.

Mr. Thomas Watson, Vice-President for Saskatchewan, raised the question of the dismissal of Sanitary Inspectors, and expressed the opinion that such dismissals should be subject only to approval of the Provincial Boards of Health. He also suggested that the status and duties of a Sanitary Inspector should be defined in the Health Acts. The matter was referred to the Executive Committee.

The following officers were elected for the ensuing year:

President—Mr. E. W. J. Hague, Winnipeg, Man.

Vice-Presidents—Western Ontario, Mr. W. E. Stanley, Fort William, Ont.; Manitoba, Mr. W. F. Thornley, Winnipeg, Man.; Saskatchewan, Mr. Thomas Watson, Regina, Sask.; Alberta, Mr. J. J. Dunn,

ABSTRACT OF TREASURER'S INTROMISSIONS. 1ST SEPTEMBER, 1913, TO 30TH JUNE, 1914.

Receipts.		*Payments.*	
To Balance in Bank and on hand at 1st Sept., 1913	$ 82 00	By Secretary-Treasurer's expenses attending Annual Meeting at Regina	$ 20 00
Subscriptions from Members and Associate Members	218 00	Printing	29 50
Interest on Bank Account	2 51	Refunded in lieu of Public Health Journal	12 00
		Manager, Public Health Journal	68 00
		Typewriting	4 80
		Postage	11 00
		Balance in Bank	147 21
	$302 51		$302 51

long to other associations, and I have not yet had the opportunity of going to Vancouver and Victoria.

I would like to take this opportunity of suggesting to the Executive Committee that they write to every Municipal Council asking them to pass a by-law or resolution making it compulsory that every inspector shall have received special training and hold certificates of competency in Sanitary knowledge and also that the Executive Committee get in touch with the Royal Sanitary Institute of London, England.

It was unanimously agreed to give the Secretary-Treasurer an honorarium of

Calgary, Alta.; British Columbia, Mr. F. L. Glover, Kamloops, B.C.

Executive Committee—Mr. W. J. Watt, Winnipeg, Man.; Mr. P. B. Tustin, Winnipeg, Man.; Mr. D. Little, Winnipeg, Man.; Mr. E. C. Brown, Winnipeg, Man.

Auditors—W. J. T. Watt, Winnipeg, Man.; W. F. Thornley, Winnipeg, Man.

The proceedings were terminated by a hearty vote of thanks to Mr. P. B. Tustin and the Winnipeg members for the excellent arrangements made, and for what had been done towards making the visit pleasant and profitable for the visiting members.